

International Abstract of Surgery

SUPPLEMENTARY TO

Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVEL, M.D., Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PROF. PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON, M.D. AND SUMNER I. KOCH, M.D.

Volume LXI

July to December, 1935

PUBLISHED BY

THE SURGICAL PUBLISHING COMPANY OF CHICAGO

54 EAST ERIE STREET, CHICAGO

1935

JULY, 1935

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVAL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Authors of Articles Abstracted	ii
II. Index of Abstracts of Current Literature	iii-vii
III. Abstracts of Current Literature	1-80
IV. Bibliography of Current Literature	81-104

AUTHORS OF ARTICLES ABSTRACTED

- Abel J J 69
 Adson A W 75
 Akerblom A 13
 Allen E A 61
 Almsour R 5
 Anseroff N J 47
 Aruckle M F 8
 Archer S W 16
 Avertukh S S 13
 Baccarini L 47
 Bailey U M 65
 Barentoun S 64
 Bauer R 58
 Bazy L 62
 Beck J C 11
 Benedict F H 23
 Benedict W I 4
 Benoit H 26
 Bergstrand H 34
 Bernard R 6
 Bernhard F 30
 Bernheim A K 8
 Bernal A 44
 Blackford S D 16
 Blair D M 7
 Blackwood J C 15
 Bradford J F 50
 Breitmann M C 21
 Brenda T S 13
 Brindrau J 34
 Brocq J 30
 Benders A C 19
 Brown G 68
 Brown S 3
 Buckley C W 53
 Buechner J 34
 Bumpus H C Jr 41
 Caciop J A 14
 Calchi Novati C 51
 Camp J D 61
 Carel J 27
 Casucci C 51
 Cazzamali P 67
 Cella C 18
 Comrades S J 62
 Cook F N 40
 Costali C 53
 Courtney J 8
 Crane C C 43
 Crossen H S 1
 Curdilett J 29
 Cutler M 66
 Dares F
 Dean A I Jr 45
- Dellepiane C 44
 Demureau J 18
 Denk W 27
 Desmarest 21
 Diaz C 60
 Eichenberg H F 55
 Eisenberg A 13
 Evans I A Jr 69
 Fies C 5
 Falls J H 39
 Fels L 34
 Feyrter I 76
 Fiessner N 62
 Filatov V I 4
 Fironi I 17
 Fischer Wasels B 18
 Fontaine G 58
 Franceschi E 44 45
 Fraser J 60
 Friedemann M 22
 Friedman L 13
 Carlock J H 4
 Gentile A 29
 Gerner L 1
 Gifford S P 5
 Gubiani G M 28
 Goffenberg Bayler S 32
 Goloubewa D 37
 Graves R C 46
 Ginnell R S 28
 Guttman M R 11
 Hampel B 60
 Hankins F D 7
 Harris W 65
 Hawksley J C 65
 Haver F 73
 Herzberg B 20
 Hinglais J 61
 Hitzrot L H 61
 Hultén O 55
 Hunter D 42
 Inclán A 54
 Jackson C 9
 Jackson C I 9
 Jury S 5
 Kaplan A 13
 Kapo J J 52
 Karitzky B 9
 Kernhan J W 5
 Kirklin J R 2
 Kirshbaum J D 25
 Krikova O A 42
 Kunitzky F 20
 Kopytaky S J 5
- Kramer P 10
 Lacassagne A 31
 Laromars no F H 58
 Landis F M 61
 Layton T B 5
 Lee F C 69
 Lenti P 52
 Leventhal M L 35
 Levi L M 7
 Lévine M M 57
 Lightwood R 65
 Lipschutz B 29
 Ljovaga P 68
 Loh A 74
 Lybetsky D N 15
 Mallet L 1
 Mandl F 26
 Maraszynski M 68
 Marvin H I 20
 Martynenko I 37
 McBurney R D 40
 McCarthy J J 3
 McKissock W 7
 McNeide L G 42
 Mead C H 22
 Messing R 62
 Mikulicz Radecki F von 40
 Militzer R F 46
 Miller L F 54
 Miller L J 54
 Milone S 21
 Mitchell J H 70
 Moersch J J 19
 Monod R 18
 Montgomery H 4
 Moore C R 47
 Moroleva A M 41
 Morosova A N 46
 Moulounguet P 1
 Mueller K F I 6
 Mutschenba her T 15
 Naulleau J 62
 Negri A 36
 Newell Q U 33
 Oertel H 78
 Orlivie W H 74
 O'shaughnessy L 27
 Ottolenghi C F 54
 Paggi B 15
 Paine C G 41
 Paroli C 33
 Piantune J 17
 Piccagli C 53
- Piero A 21
 Lohle E A 43
 Price L W 6
 Primrose A 76
 Puccini L 39
 Putti V 51
 Punsapp L 12
 Quinto F 18
 Racine M 62
 Ravina A 62
 Pehoul H 62
 Reeves J R 70
 Peiprich W 30
 Rich J 34
 Ritchie G 43
 Roberch F 38
 Rosenthal N 65
 Runco A 21
 Russell D S 43
 Sabadini I 22
 Salinger S 10
 Scheele K 47
 Schwarz F 63
 Seidmanoff T 40
 Scott S 15
 Semenova O S 13
 Shopley E E 14
 Sherman J T 42
 Skudina C 64
 Soimaru A 33
 Som M L 10
 Sophian L 19
 Sorby A 4
 Stein I F 35
 Sutton R I Jr 77
 Symonds C I 5
 Teneta J 37
 Terkhova A A 41
 Thompson G J 46
 Tománek F 55
 Truster H M 20
 Turnbull H H 6
 Ungar G 62
 Vehrs G R 79
 Verende J 69
 Volaw R 8
 Waters C A 43
 Watson Williams E 5
 Wiles P 40
 Wisler J F 16
 Wolman H W 75
 Woodruff S R 43
 Zampa C 29

CONTENTS—JULY, 1935

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

Head

- GERNEZ, L., MOULONGUET, P., and MALLET, L.: Treatment of Epithelial Cancers of the Mandible by Electrocoagulation Followed by Radium Irradiation
- AKERBLOM, N. V. Prolonged Resection of the Lower Jaw as Treatment of Cancer of This Bone
- ADSON, A. W., KERNOHAN, J. W., and WOLTMAN, H. W. Cranial and Cervical Chordomas. A Clinical and Histological Study

Eye

- GIFFORD, S. R. Some Notes on the Treatment of Strabismus
- BENEDICT, W. L., and MONTGOMERY, H. Pseudo-xanthoma Elasticum and Angioid Streaks
- FILATOV, V. P. Transplantation of the Cornea
- SORSBY, A. Congenital Coloboma of the Macula. Together with an Account of the Familial Occurrence of Bilateral Macular Coloboma in Association with Apical Dystrophy of the Hands and Feet

Ear

- LAYTON, T. B., JORY, N., SYMONDS, C. P., WATSON-WILLIAMS, E., and Others. Discussion on Meningitis of Otic Origin
- EVES, C. The Diagnosis of Acute Suppuration of the Petrous Pyramid
- KOPFZKY, S. J., and ALMOUR, R. A Report of Ten Cases of Suppuration in the Petrosal Pyramid

Nose and Sinuses

- PRICE, L. W. Malignant Tumors of the Nasal Mucosa

Mouth

- BERNARD, R. Simple Glandular Cheilitis or Puente's Disease
- MULLER, K. F. P. The Results of Palatoplasty by the Method of Victor Veau on the Basis of 100 Cases
- LEVI, L. M., and HANKINS, F. D. Carcinoma of the Lingual Thyroid

Neck

- BLAIR, D. M., DAVIES, F., and MCKINNOCK, W. The Etiology of the Vascular Symptoms of Cervical Rib
- BERNHIM, A. R., and GAFLOCK, J. H. Parathyroidectomy for Raynaud's Disease and Scleroderma

- ARBUCKLE, M. F., COWDRY, E. V., and VOTAW, R. The Effect of Radium Emanations on the Laryngeal Cartilage
- JACKSON, C., and JACKSON, C. L. Dysphonia Plicæ Ventricularis. Phonation with the Ventricular Bands
- KRAMER, R., and SOM, M. L. Local Tumor-Like Deposits of Amyloid in the Larynx. Report of a Case, with a Review of the Literature
- SALINGFR, S. Carcinoma of the Larynx. Surgical Considerations
- BECK, J. C., and GUTTMAN, M. R. Carcinoma of the Larynx, Some Conclusions Derived from Personal Experience...

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

- LAYTON, T. B., JORY, N., SYMONDS, C. P., WATSON-WILLIAMS, E., and Others. Discussion of Meningitis of Otic Origin
- SCOTT, S. The Diagnosis and Treatment of Abscess of the Brain
- PUUSEPP, L. The Clinical Aspects and Treatment of Brain Abscesses
- KAPLAN, A. Abscess of the Brain. A Report of Five Consecutive Recoveries, with Special Reference to Mosher Drain and Pneumographic Visualization of the Abscess Cavity
- AVFRBUKH, S. S., BREYDA, I. S., LEBOTSI, D. N., and SEMENOVA, O. S. The Palatine Access to the Ganglion Sphenopalatinum and to the Second Branch of the Trifacial Nerve
- FRIEDMAN, L., and LIENBERG, A. A. Neurofibroma of the Hypoglossal Nerve
- CROOK, A. C., and RUSSELL, D. S. The Pituitary Gland in Addison's Disease

Sympathetic Nerves

- CALIRO, J. A. Stellate Ganglionectomy

SURGERY OF THE THORAX

Chest Wall and Breast

- PAGGI, B. A Case of Liponecrosis of the Breast with Xanthomatous Degeneration
- BLOODGOOD, J. C. Borderline Breast Tumors. Biopsy and Postbiopsy Treatment
- Trachea, Lungs, and Pleura
- BLACKFORD, S. D. Pulmonary Manifestations in Human Tuberculosis. A Clinical Study

- ARCHER V W, BLACKFORD S D and WISLER J E Pulmonary Manifestations in Human Typhemia A Roentgenological Study 16
- FIORINI F Attempts to Produce Bronchiectasis Experimentally 17
- OSIPACHYSSY L Surgery of the Lung Root 17
- MONOD R and DEMEULEL J The Technique of One Stage Lobectomy 18
- TUNNELL H H Postoperative Pulmonary Complications 67
- BROWN G Postoperative Pulmonary Complications 68

Heart and Pericardium

- COLA C Fluoroscopic Observations in Acute and Chronic Pericarditis 18
- FIEBIGER, N, RAVINA A, and MENDEL K. Remarks on the Arteritis of Subacute Malignant Endocarditis 61

Esophagus and Mediastinum

- MORRICH H J and BRADERS A C Adenoma of the Esophagus 19
- SOPHAN I Mediastinal Cangiomeuroma 19
- BROWN S and MCCARTHY J F A Study of the Esophagus in Relation to the Heart, Aorta and Thoracic Cage 73

SURGERY OF THE ABDOMEN

- Abdominal Wall and Peritoneum
- HERBERG B Operation for Crural Hernia by the Original Route and Its Late Results 20
- KATZKY L A Case of Incarcerated Obturator Hernia Cured by Operation 20
- TRISLER, H M, REEVES J R and MARTIN H F The Significance of Anaerobic Organisms in Peritonitis Due to Liver Autolysis A Bacteriological Study of the Peritoneal Exudate 21
- BREITMANN M C The Problem of Draining the Abdominal Cavity in Cases of General Peritonitis 21
- RINCO A The Mesenterium Commune 21
- MILROY S and PIRCO A The Pathogenesis of Fibrous Retractive Mesenteritis 21
- MEAD C H Mesenteric Lymphadenitis Simulating Acute Appendicitis A Quantitative Study of the Size of Normal Mesenteric Lymph Nodes 22
- SOMMARI A Generalized Peritonitis from the Rupture of a Pyosalpinx 33
- PICCOLI L Genitoperitoneal Tuberculosis and Pregnancy 33

Gastro-Intestinal Tract

- FRICKMANN M The Controversy Over the Pylorus Also a Contribution on the Subject of Hydrochloric Acid and Gastric Ulcer 22
- REVENYER J B Chronic Gastritis A Clinical Discussion Based on Gastroscopic Examination 23
- BLUMBERG F Peptic Gastritis 24
- OSLIVY W B Some Points in the Operation of Gastroenteromy 24

- KIRSCHBAUM J D Submucous Lipomas of the Intestinal Tract as a Cause of Intestinal Obstruction 25
- MADEL F Further Experiences with Radical Operation for Carcinoma of the Rectum 27
- KIRKLIN B R Some Problems in Diagnosis and Their Solution by Radiological Examination of the Alimentary Canal 72

Liver, Gall Bladder, Pancreas and Spleen

- CAROLI J and BENOIT H So-Called Medical Icterus and its Surgical Treatment A Study of its Clinical Aspects Pathogenesis and Therapy 6
- DENE W Results of Surgical Treatment of Chronic Icterus 27
- GRINNELL R S Omentopexy in Portal Cirrhosis of the Liver with Ascaris 3
- GHILIANI G M Hypercholesterolemia as a Cause of Hepatic Calculus 28
- SABADINI I and CURTILEY E Intraoperative Biliary Fusions Without Apparent Perforation of the Biliary Tract 9
- LIPSHUTE B Acute Cholecystitis 29
- GENTILE A Cholestyrogastrostomy and Hepatitis An Experimental Study 29
- ZAKPA C The Effects of Denervation of the Cystic Duct 29
- BROCK P The Treatment of Acute Pancreatitis 30
- BERNHARD F The Surgery of Acute Pancreatic Diseases 30
- ROSECCI F A Study of Hepatic Function in Pregnancy The Curve of the Amino-Acids in the Blood 38

GYNECOLOGY

- Uterus
- GOLDENBERG TAYLOR S The Condition of Uterine Fibroids After the Menopause 31
- LACASSAGNE A The Development of Irradiation Therapy of Cervical Uterine Epitheliomas 31
- PAROLI C On the Treatment of Carcinoma of the Cervix in Pregnancy 33
- NEWELL, Q U and CROSSEN H S Five Year Results in Fifty Six Cases of Carcinoma of the Corpus Uteri 33

Adnexal and Peritoneal Conditions

- SOMMARI A Generalized Peritonitis from the Rupture of a Pyosalpinx 33
- FELS F The Corpus Luteum Hormone and Its Isolation 34
- BERGSTAND H Infusionization of the Ovaries in a Case of Basophilic Pituitary Adenoma with Cushing's Syndrome 34
- BRINDEAU RIEHL, HINGLAIS and HINGLAIS An Enormous Amount of Lutein Hormone in the Urine in a Case of Lutein Cyst 34
- STILL I F and LEVYENTHAL M L Amenorrhoea Associated with Bilateral Polycystic Ovaries 35
- External Genitalia
- LECHENBERG H E Hydradenoma of the Vulva 35

Miscellaneous

- REIFRICH, W. The Biology and the Diagnostic-Therapeutic Importance of the Sex Hormones of the Anterior Lobe of the Pituitary Gland
- NGRI, A. The Problem of Discharge from the Genital Tract
- MARTYSENKO, P., TENETA, E., PIANTINI, J., and GOLOUBEVA, O. Comparative Evaluation of Physiotherapeutic and Surgical Methods in the Treatment of Infections of the Female Genital Organs in Relation to the Recovery of Work Capacity

- POHLE, E. A., and RITCHIE, G. Malignant Tumors of the Kidney in Children, with a Report of Six Cases 43
- 36 FRANCESCHI, E. Contribution on the Pathology and Clinical Aspects of Squamous Cell Carcinoma of the Renal Pelvis 44
- 36 BRIASINI, A. A Contribution on Femoral Hernias of the Ureter 44
- DIPIEFANI, G. Lesions of the Ureter Produced in the Course of Operations and Their Treatment 44
- 37 Bladder, Urethra, and Penis
- FRANCESCHI, E. Experimentally Produced Hernias of the Mucosa of the Urinary Bladder 45
- DLAN, A. L., JR. Epithelioma of the Penis 45

OBSTETRICS

Pregnancy and Its Complications

- PAROLI, G. On the Treatment of Carcinoma of the Cervix in Pregnancy
- ROBECCHI, E. A Study of Hepatic Function in Pregnancy The Curve of the Amino-Acids in the Blood
- QUINTO, P. Nephrectomy and Pregnancy
- PUCCIONI, L. Genitoperitoneal Tuberculosis and Pregnancy
- FALLS, F. H. A Critical Study of 500 Cases of Eclampsogenic Toxemia

- Genital Organs
- 33 THOMPSON, G. J., and COOL, E. N. Chronic Prostatitis and Prostatic Calculus Treatment by Incision with the Electrocautery 46
- 38 GRAVES, R. C., and MILITZER, R. E. Carcinoma of the Prostate with Metastases 46
- 38 MOORE, C. R. Testicular Biology, Scrotal Function, and the Male Sex Hormone 47
- 39 BACCARINI, L. A Contribution to the Study of Chronic So-Called Aspecific Orchitis and Epididymitis 47

Labor and Its Complications

- SCICLONOFF, T. An Inquiry into the Value of Rectal Examination in the Course of Obstetrical Delivery
- MCNEHE, L. G., and MCBURNEY, R. D. A Statistical Study of Uterine Ruptures

- Miscellaneous
- 40 SCHEFFLE, K. Traumatic Injuries of the Kidney, Ureter, and Bladder 47

Puerperium and Its Complications

- MIKULICZ-RADECKI, F. von. The Treatment of Atonic Postpartum Hemorrhages, Together with a Report on the Methods Used by the General Practitioner in East Prussia in the Treatment of Postpartum Hemorrhages
- PAINE, C. G. The Etiology of Puerperal Infection
- MOROSOVA, A. N., KOMKOVA, O. A., MOROLEVA, A. M., and TERFKHOVA, A. A. The Part Played by Anaerobic Infection in the Etiology of Puerperal Diseases The Clinical Picture, Diagnosis, and Treatment of These Diseases

Miscellaneous

- SHERMAN, J. T. A Study of Seventy-Eight Patients with Hydatidiform Mole

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

- Conditions of the Bones, Joints, Muscles, Tendons, Etc
- 40 ANSTOFF, N. J. The Arteries of the Long Bones of Man 49
- 41 HUNTER, D., and WILES, P. Dyschondroplasia (Olier's Disease) 49
- BRAILS福德, J. F. Osteochondritis 50
- PUTTI, V., and CASULLO, C. Joint Thermometry 51
- 41 KAPO, P. J. An Evaluation of the Roentgen Findings in Gonorrheal Arthritis 52
- LENTI, P. Chronic Syphilitic Arthritis 52
- 42 HULTÉN, O. The Development and Treatment of Malacia of the Lunate Bone—Kienboeck's Disease 53
- CALCHI NOVATI, G., and COSSALI, C. A Characteristic Change in the Fingers of Milkmen. 53
- BUCKLEY, C. W. Fibrositis, Lumbago, and Sciatica 53
- 38 MILLER, L. F., and MILLER, L. J. Pellegrini-Stieda Disease 54
- 43 Surgery of the Bones, Joints, Muscles, Tendons, Etc
- 43 TOMÁNEK, F. The Recognition and Treatment of Bone Sarcoma 55
- 43 DÍAZ, G. Resection Arthrodesis as a Method of Treating Tuberculous Coxitis in the Adult 56

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- QUINTO, P. Nephrectomy and Pregnancy
- CROOK, A. C., and RUSSELL, D. S. The Pituitary Gland in Addison's Disease
- WOODRUFF, S. R., and BUMPUS, H. C., JR. Is Nephrectomy Always Indicated Following a Diagnosis of Unilateral Renal Tuberculosis?
- WATERS, C. A. Pre-Operative Irradiation of Cortical Renal Tumors

Fractures and Dislocations

- LÉWINE M M On the Question of the Reaction of Bony Tissue to the Introduction of Steel One of the Causes of Complications of Osteosynthesis
- OTTOLENGHI C F and LAGOMARSINO P H Complete Acromioclavicular Dislocation An Apparatus for Its Non-Operative Reduction
- ISCLÁN A Fractures of Monteggia
- FONTAINE R and BAKER R End Results of the Treatment of Fractures of the Upper Extremity of the Radius
- PIECARLI G Early Treatment of Congenital Dislocation of the Hip

SURGERY OF BLOOD AND LYMPH SYSTEMS

Blood Vessels

- ANSFERT J J The Arteries of the Long Bones of Man
- FRASER J Circulatory Diseases of the Extremities
- SANDIS F M and HITZROT J H The Clinical Value of Alternate Suction and Pressure in the Treatment of Arterial and Peripheral Vascular Disease
- ALLEN L V and CAMP J D Arteriography A Roentgenographic Study of the Peripheral Arteries of the Living Subject Following Their Injection with a Radiopaque Substance
- COGHIADIS A J, NAULEAU J and UNGAR C The Vasomotor Action and Dangers of the Contrast Media Used in Arteriography Experimental Research and Clinical Results
- BAZY L, REBOUL H and RACINE M Observations on the Contrast Media and the Mechanical Factors Used in Arteriography
- FIESSINGER N, RAVIYA A and MESSING R Remarks on the Arteritis of Subacute Malignant Endocarditis
- SCHWARTZ E Varicose Veins of the Lower Extremity with Special Consideration of Their Development and Treatment

Blood Transfusion

- SKLODIA C and BAKESSTON S The Clinical Transfusion of Postmortem Blood
- HAYER F The Results of Experimental Studies of the Peripheral White Blood Cells After Roentgen Irradiation

Lymph Glands and Lymphatic Vessels

- MEAD C H Mesenteric Lymphadenitis Simulating Acute Appendicitis A Quantitative Study of the Size of Normal Mesenteric Lymph Nodes
- LIGHTWOOD R, HAWESLEY J C and BAILEY L M Supravital Staining in the Diagnosis of the Leukemias
- ROSENTHAL N and HARRIS W Leukemia Its Diagnosis and Treatment
- CUTLER M Lymphosarcoma A Clinical Pathological and Radiotherapeutic Study with a Report of Thirty Cases

SURGICAL TECHNIQUE

Operative Surgery and Technique, Postoperative Treatment

- CAZIMALI P A Study of the Postoperative Variations in the Body Fluids II Changes in the Blood Chlorides and Their Relation to Postoperative Changes in the Body Fluids
- TURNBULL H H Postoperative Pulmonary Complications
- BROWN G Postoperative Pulmonary Complications
- LYRRAU P Ossification in Postoperative Scars

Antiseptic Surgery Treatment of Wounds and Infections

- MARASZEVSKI M The Prognosis of Crushing Injuries of the Extremities
- AREL J J, EVANS C A Jr, HAMPTON B and LEFEBRE C Researches on Tetanus II The Toxin of the Bacillus Tetani Is Not Transported to the Central Nervous System by Any Component of the Peripheral Nerve Trunks
- VERTELLE J Experimental Studies on the Specific Immunizing Power of the Staphylococcus Bacterial Antivirus
- MITCHELL J H Streptococcal Infection Simulating Ringworm of the Hands and Feet

Anesthesia

- VEHR G R Problems in the Hydrodynamics of Analgesics in the Subarachnoid Fluid of Man Dissolved Novocain in Artificial Dural Sacs
- DESMAREST Six Hundred Cases of Anesthesia by Means of Combined Trichloroethanol and Nitrous Oxide Oxygen

PHYSICO-CHEMICAL METHODS IN SURGERY

Roentgenology

- ARCHER V W, BLACKFORD S D and WISSLER J F Pulmonary Manifestations in Human Tuberculosis A Roentgenological Study
- COLA G Fluoroscopic Observations in Acute and Chronic Endocarditis
- WATERS C A Intraoperative Irradiation of Cortical Renal Tumors
- FARO P J An Evaluation of the Roentgen Findings in Gonorrheal Arthritis
- ALLEN L V and CAMP J D Arteriography A Roentgenographic Study of the Peripheral Arteries of the Living Subject Following Their Injection with a Radiopaque Substance
- COGHIADIS A J, NAULEAU J and UNGAR C The Vasomotor Action and Dangers of the Contrast Media Used in Arteriography Experimental Research and Clinical Results
- BAZY L, REBOUL H and RACINE M Observations on the Contrast Media and the Mechanical Factors Used in Arteriography
- CUTLER M Lymphosarcoma A Clinical Pathological and Radiotherapeutic Study with a Report of Thirty Cases

KIRKLIN, B. R.: Some Problems in Diagnosis and Their Solution by Radiological Examination of the Alimentary Canal

BROWN, S., and McCARTHY, J. E.: A Study of the Esophagus in Relation to the Heart, Aorta, and Thoracic Cage

HAYER, F.: The Results of Experimental Studies of the Peripheral White Blood Cells After Roentgen Irradiation

SURPLEY, E. E.: The Role of Radiotherapy in the Problem of Malignancy

Radium

GERNEZ, L., MOULONGUET, P., and MAILLET, L.: Treatment of Epithelial Cancers of the Mandible by Electrocoagulation Followed by Radium Irradiation

ARBUCKLE, M. F., COWDRI, E. V., and VOTAW, R.: The Effect of Radium Emanations on the Laryngeal Cartilage

LUCASSAGNI, A.: The Development of Irradiation Therapy of Cervico-Uterine Epitheliomas

PAROLI, G.: On the Treatment of Carcinoma of the Cervix in Pregnancy

Miscellaneous

LOB, A.: Indications for, and Results of, Short-Wave Therapy in Surgery

MISCELLANEOUS

72 Clinical Entities—General Physiological Conditions

BLACKFORD, S. D.: Pulmonary Manifestations in Human Tularemia. A Clinical Study 16

73 ARCHER, V. W., BLACKFORD, S. D., and WISSELER, J. E.: Pulmonary Manifestations in Human Tularemia. A Roentgenological Study 16

75 SHEPHERD, E. E.: The Role of Radiotherapy in the Problem of Malignancy 74

74 MUTSCHLNBACHER, T.: The Surgical Importance of Angioneurotic Edema 75

ADSON, A. W., KERNOHAN, J. W., and WOLTMAN, H. W.: Cranial and Cervical Chordomas: A Clinical and Histological Study 75

1 PRIMROSE, A.: Cancer 76

PFARTER, F.: Carcinoid and Carcinoma 76

SUTTON, R. L., JR.: Early Cutaneous Carcinoma 77

8 DISCHER-WAELS, B.: The Importance of a Special General Predisposition to the Development of Cancer and the Possibilities of Combating It 78

33 OERTEL, H.: On a Peculiar Vascular Transportation and Generalization of Carcinoma Without Local Metastasis 78

KARITZKY, B.: Results of the Spread of Information on Cancer. A Clinical Contribution to the Cancer Problem and Cancer Propaganda 79

BIBLIOGRAPHY

Surgery of the Head and Neck

Head	81
Eye	81
Ear	82
Nose and Sinuses	82
Mouth	83
Pharynx	83
Neck	83

Surgery of the Nervous System

Brain and Its Coverings	84
Spinal Cord and Its Coverings	85
Peripheral Nerves	85
Sympathetic Nerves	85
Miscellaneous	85

Surgery of the Thorax

Chest Wall and Breast	85
Trachea, Lungs, and Pleura	85
Heart and Pericardium	86
Esophagus and Mediastinum	86
Miscellaneous	86

Surgery of the Abdomen

Abdominal Wall and Peritoneum	86
Gastro-Intestinal Tract	87
Liver, Gall Bladder, Pancreas, and Spleen	89
Miscellaneous	90

Gynecology

Uterus	90
Adnexal and Perimetrial Conditions	91
External Genitalia	92
Miscellaneous	92

Obstetrics

Pregnancy and Its Complications	93
Labor and Its Complications	94
Puerperium and Its Complications	95
Newborn	95
Miscellaneous	95

Genito-Urinary Surgery

Adrenal, Kidney, and Ureter	96
Bladder, Urethra, and Penis	97
Genital Organs	97
Miscellaneous	97

Surgery of the Bones, Joints, Muscles, Tendons

Conditions of the Bones, Joints, Muscles, Tendons, Etc.	98
Surgery of the Bones, Joints, Muscles, Tendons, Etc.	99
Fractures and Dislocations	99
Orthopedics in General	100

Surgery of the Blood and Lymph Systems

Blood Vessels	100
Blood, Transfusion	101
Lymph Glands and Lymphatic Vessels	101

Surgical Technique

Operative Surgery and Technique	101
Treatment	101
Antiseptic Surgery, Treatment of Wounds and Infections	102
Anesthesia	103

Physicochemical Methods in Surgery

Röntgenology	103
Radium	103
Miscellaneous	104

Miscellaneous

Clinical Entities—General Physiological Conditions	104
General Bacterial, Protozoan, and Parasitic Infections	104
Ductless Glands	104

INTERNATIONAL ABSTRACT OF SURGERY

JULY, 1935

ABSTRACTS OF CURRENT LITERATURE SURGERY OF THE HEAD AND NECK

HEAD

Gernez, L., Moulouguet, P., and Mallet, L.: Treatment of Epithelial Cancers of the Mandible by Electrocoagulation Followed by Radium Irradiation (Traitement des cancers épithéliaux de la mandibule par l'électrocoagulation suivie de curiethérapie) *J. de chir.*, 1935, 45: 337

From the standpoint of treatment the authors divide epithelial cancers of the mandible into two groups—localized epithelial cancers of the mandible of gingival or sublingual origin and diffuse cancers of the mandible having their origin in the gums, sublingual tissues, tongue, or tonsils and invading the glands and cellular tissues of the neck.

The localizing epithelial cancers of the mandible develop exclusively in the spongy pars alveolaris, leaving the compact inferior margin or base of the mandible intact. The clinical picture they produce varies according to their site of origin. The burrowing type of cancer of gingival origin always appears after a dental injury. Therefore the dentist may be of great assistance in its early diagnosis. If it is not recognized by the dentist, it may not be detected until it has invaded the deeper tissues of the jaw. After the extraction of a tooth, vegetations appear in the alveolus. These may be taken for dental cysts or periostitis and cauterized. A roentgenogram made at this time will show an area of localized osteoporosis, almost lacunar in some cases, which even at this early stage is evidence of the burrowing growth of the tumor. Biopsy of the vegetations will disclose the nature of the affection. As soon as the tumor is diagnosed, an attempt should be made to ascertain its extent.

Cancer of the floor of the mouth is diagnosed more easily. In this condition there is ulceration of the frenum of the tongue or in the vicinity of the salivary caruncle. However, even before this stage the tumor may have invaded the bone at the posterior surface of the alveolar margin. Very soon there is interference with the movements of the tongue. The extent of the tumor in the soft tissues may be deter-

mined by palpation, and its extent in the bone by roentgenograms.

In the treatment, all suspected tissue should be destroyed by electrocoagulation in a single sitting. Because of the danger of septic inoculation of the cellular spaces of the neck, the destruction should not be extended beyond the buccal cavity. The continuity of the mandibular arch should be preserved in order to prevent marked postoperative facial deformity.

In the cases reviewed by the authors the instrument used for the electrocoagulation was the Beaudouin-Gondet apparatus of either the mixed interrupted and continuous wave type (from 5 to 6 amperes) or the interrupted wave type (from 15 to 20 amperes) which permits electrocoagulation to a great depth.

The operation was usually performed under regional infiltration anesthesia preceded by the preliminary administration of chloral and scopolamine. In some cases, however, general chloroform anesthesia without preliminary anesthesia was preferred in order to obtain early awakening and immediate restoration of the reflexes.

The patient is placed in the sitting or semi-sitting position with the head erect and well supported. The region is widely exposed by means of a gag covered with rubber. The lips are separated and protected from burns by Farabeuf retractors covered with rubber or by a wooden tongue depressor.

The current destroys the tissues without hemorrhage. The best guidance is furnished by a thorough preliminary examination. The plan of operation should be determined in advance. In the soft tissues, palpation for indurated areas will be of aid. All indurated tissue should be destroyed. Next, the entire alveolar area invaded by the tumor must be electrocoagulated. The necrotizing effect will not be apparent immediately, and it is only by experience that one becomes able to determine the duration of the application necessary to destroy a given area without injuring the rest of the bone. To assure the destruction of all lateral infiltrations of the disease

process the electrocoagulation should be extended at least two teeth beyond the apparent limits of the cancer.

On completion of the electrocoagulation it may be necessary to secure the tongue by a thread through its apex to prevent it from falling down over the coagulated area. The adjoining mucosa, although not touched by the instrument will usually react during the first few days with edema followed by desquamation due to the heat to which it has been exposed. It is astonishing how little the patient suffers during the hours and days following this treatment. The temperature remains normal or almost normal and during the first few days there is no unpleasant odor from the mouth. The post-operative course is in marked contrast to that of a surgical procedure.

After a few days of irrigation the scars on the soft tissues become detached little by little. At this stage there may be a slightly fetid odor. For several weeks the bone does not seem to change. The process of sequestration is extremely slow. After from five to eight weeks the coagulated bone comes away spontaneously or with very gentle traction the base of the mandible being perfectly healed beneath it. The authors have never observed osteitis after electrocoagulation. Force should be avoided in detaching the bone as it is likely to cause fracture. Before detachment of the sequestrum the patient should be instructed to rinse the mouth carefully after each meal.

During the period of separation of the sequestrum radium is applied. The lymphatics are treated through transcutaneous moulds. These permit proper irradiation without undue destruction of the skin and normal tissues. The radium is distributed in multiple loci in a wax cast moulded to fit the face and neck. The authors describe a cast for the treatment of cancer of the anterior and median portions of the floor of the mouth and the mandibular arch and a cast for the treatment of cancer involving the horizontal portion of the jaw and the posterior portion of the floor of the mouth. The skin distance for the first type should be 3 cm. and the dose 10 mgm. of radium element filtered by 2 mm. of platinum or a total of 120 mgm. and the duration of the application from eighteen to twenty days. The dose should equal from 45 to 50 R units for twenty days. For the second type the skin distance should be 6 cm. or in very limited cases without marked adenopathy 4 cm.

The general condition is often quite markedly affected especially when a radiodermatitis develops. The buccal reaction is very intense and accompanied by a mucodermatitis interfering with alimentation which weakens the patient. During this period which lasts about fifteen days treatment should be given to improve the general condition and the condition of the cardiopulmonary system. After this period has been survived the patient gains rapidly in strength and weight. Late radionecrosis have never been observed.

The immediate results are very good. In only one of the authors' cases did a complication develop. In this case a secondary hemorrhage occurred on the tenth day, but was controlled by lavage and tamponade with gauze saturated with a very dilute solution of perchloride of iron. Sometimes a few teeth in the region of the coagulated area were loosened but they became fixed again in the course of a few months. A plate should not be applied before a year has elapsed.

Of four patients treated by the authors in the manner described three remain cured after four, two and a half and two years respectively. The fourth developed a recurrence after a year.

A brief review of other methods of treatment employed for the cure of these lesions includes total resection of the horizontal ramus, partial resection of the alveolar margin (Morestin) surgery followed by radium irradiation and radium irradiation followed by surgery.

Electrocoagulation has the great advantage that it is not followed by osteoradionecrosis. In the diffuse type of mandibular cancer it has the advantage of being less dangerous than operation and is applicable to cases in which surgery is contra-indicated. The pain is much less than after surgical operation. While in cases of extensive tumors it often becomes necessary to trespass beyond the buccal cavity and the sequestrum may be of such an extent as to involve loss of substance and fracture of the jaw, sequestration takes place slowly and sometimes the formation of sclerotic tissue renders prosthetic appliances superfluous in spite of loss of substance. In cases of very deep and extensive cancer removal of some of the upper layers of coagulated tissue may be necessary to gain access to the deeper layers. The coagulated debris is curetted away but at no time should this procedure cause bleeding. Suture or immediate autoplasty was not done in any of the authors' cases of this type. If the wound is external it is covered with a very light dressing and if it is internal it is treated with irrigations. Radiotherapy is applied as for the localized type. Occasionally a cancerized glandular area has been removed surgically but as a rule radiotherapy through moulded casts has been employed. The results of treatment of these extensive tumors are of course less favorable. However the authors believe that the method described should improve the prognosis. Several cases are cited in support of this theory.

Eight cases are reported in detail.

The advantages of the method described by the authors are summarized as follows.

The septic complications of the classical resection of the jaw are avoided. Rupture of the mandibular arch is prevented or at least retarded for several weeks, the difficult problem of early prosthesis being therefore solved. The formation of the sequestrum is slow and aseptic. Transcutaneous irradiation applied a few days after electrocoagulation has never given rise to radionecrosis.

EDITH SCHANCHE MOORE

Åkerblom, N. V.: Prolonged Resection of the Lower Jaw as Treatment of Cancer of This Bone (La résection "prolongée" du maxillaire inférieur comme traitement du cancer de cet os) *Acta chirurg. Scand.* 1934, 75 513

The usual treatment of carcinoma involving the alveolar border of the lower jaw consists in resection of a segment of the bone. This necessitates the immediate application of a prosthetic device prepared in advance. The author's method obviates the use of an immediate prosthesis. In fact it may render the patient satisfied to dispense with a prosthesis entirely.

The cervical lymph nodes are first removed. The tumor is then destroyed by diathermy and the bone widely sterilized, the lower border of the jaw being preserved. The wounds, external and internal, are completely closed except for the passage for a drain. When the bone has become completely sequestered it is removed at a secondary operation. The technique is not described in detail.

Two cases successfully treated by this method are reported with photographs and roentgenograms.

ALBERT I. DE GLOAT, M.D.

EYE

Gifford, S. R.: Some Notes on the Treatment of Strabismus. *Brit. J. Ophthalm.*, 1935, 19 148

In this article, which is based on two years' experience in a special clinic for orthoptic training, the author evaluates such training in the treatment of strabismus.

He states that the first essential in the correction of strabismus is a complete examination. In the cases of children under ten years old this should include refraction under atropin. In those of older children, homatropin is equally effective as a rule.

In concomitant convergent strabismus with hyperopia or hyperopic astigmatism, as much of the full correction as will be tolerated is prescribed and increased as rapidly as possible to full correction. When there is less than one diopter of hyperopia there is less chance of correction with glasses alone, but bifocals or grab fronts of +2.0 D sphere for near vision may produce some improvement. They may be tried also in cases in which the eyes are straight for distant vision but show from 10 to 15 degrees of convergence when the patient reads. In Guibor's control series, observed very carefully after refraction and with no other treatment than the use of atropin or occlusion, the refraction was done quite early, usually before the sixth year. After six months correction had been obtained with glasses in 12½ per cent, and after eighteen months it had been obtained in 30 per cent. In 20 per cent the eyes remained straight for brief periods without glasses. Most of these were cases of concomitant convergent strabismus.

In divergent squint, non-operative measures must be confined to attempts to correct amblyopia and to fusion training, since little can be done by refraction.

Opinions regarding the possibility of improving vision in amblyopic eyes vary widely. Herzau reported improvement in 37 per cent, and Peter, improvement in 50 per cent. The author has been unable to approximate these results. Uni-ocular occlusion is usually impossible in cases in which the vision of the amblyopic eye is below 20/200, and only a few parents will carry it out satisfactorily in other cases. Even in some of the author's cases in which excellent cooperation was obtained the results were poor.

Gifford's results from occlusion for one or two hours a day and the use of atropin have not been very satisfactory. Guibor has overcome suppression of the poorer eye and aided orthoptic training by reducing vision in the good eye by under-correction with atropin or the use of Snell's lined glasses. Improvement in vision has not been striking, but prolonged uni-ocular occlusion has not been tried in a large enough number of cases to warrant a definite opinion. Guibor found 20/80 to be the lower limit of vision with which orthoptic training can be carried out. Patients with poorer vision could be trained to fuse the larger test objects, but did not obtain much benefit from the exercises.

In the selection of cases for orthoptic training, paralytic squint and pseudo-strabismus must be ruled out by adequate examination. The group of accommodative strabismus is the most important. Most of the 30 per cent of Guibor's control series in which the eyes became straight without training were cases of this condition. In such cases there is hyperopia, usually of fairly high degree, and treatment under atropin results in marked improvement. In many instances the eyes become straight under treatment with full correction and atropin, with or without additional correction for near vision.

Cases of strabismus due to defective fusion include those with good vision and a low degree of refractive error which show no change in the angle of squint under atropin. To this group belong many cases of divergent squint, especially intermittent or latent divergence, as well as cases of alternating squint. Even in cases of alternating squint fusion has sometimes been developed and the squint overcome. It is in this group that pre-operative and post-operative fusion training is most important.

In strabismus with amblyopia the results of refraction are less satisfactory. The greater the degree of amblyopia, and when vision is below 20/80 fusion training is of little value. If hyperopia is present, the effect of the wearing of glasses for from six months to a year may be watched. If no improvement is noted at the end of that time, surgery is indicated.

Strabismus with anisometropia may be considered a variety of strabismus with amblyopia if the anisometropia is sufficient to prevent binocular vision with correction. While the isekonic lenses of Ames may equalize the size of the images, no cures from their use have been reported.

Cases of strabismus due to muscular abnormalities are those without any of the factors mentioned, in

which weakness or over action of certain muscles is demonstrable. In this group, especially those of vertical strabismus surgery should be done without preliminary training.

All of these types are divided into squint of low degree and squint of high degree. In Guibor's group including all types of concomitant strabismus the eyes became straight after refraction and orthoptic training in 84 per cent of the cases in which the angle of squint was 15 degrees or less whereas in those in which it was above 15 degrees they became straight in only 16 per cent. In most of the author's cases in which the postoperative angle of squint was only 5 or 10 degrees complete correction was obtained by orthoptic training if this was begun early.

In the routine training given in the author's cases the patients come to the clinic once a week and are given training for from twenty to sixty minutes. As a rule no home training is given. When there is good home cooperation fewer office visits are needed.

For overcoming the suppression the large synoptophore of Maddox is ideal. The same effect may be obtained by using a bright light before one tube of Worth's amblyoscope or employing larger objects before the squinting eye in the stereoscope. As soon as fusion with the stereoscope is possible, exercises are given with this instrument. No advantage has been found by the author in the more complicated instruments using moving objects. With vision of 20/100 or better fusion is usually possible with the simpler instruments with the aid of prisms.

The easiest charts to fuse are not the flat pictures such as the bird and the cage but simple figures showing definite perspective in which one or more parts are common to both pictures. Such are the E series of Wells and all of the Sattler charts. Guibor has prepared a set of charts with perspective which are graduated in difficulty. These charts are split to allow reversal and use in all positions which saves much changing of prisms.

True binocular depth perception is obtainable but pseudo-binocularism must be watched for by cutting away the top of the stereoscope so that the eyes may be observed. A constant increase in the difficulty of the obstacles to be overcome in fusion is necessary until prisms of 20 degrees before each eye are overcome.

With good cooperation most progress is made in the first four to six months. When progress is at a standstill operation is advisable regardless of the patient's age.

In the author's cases of squint higher than 20 degrees operation is usually performed simultaneously on both lateral recti of one eye. The effect of this procedure is better than that obtained by two operations. This method is of advantage also because there is no change in the anteroposterior position of the eye as with operation on a single muscle. As recession of the internal rectus is never more than 4 mm. convergence insufficiency is therefore avoided. The technical details of several operative procedures are discussed. FOWARD & PLATT M D.

Benedict W L and Montgomery H. Pseudo-xanthoma Elasticum and Angioid Streaks. *Am J Ophth* 1935 18 203.

The authors report eight cases of pseudoxanthoma elasticum and describe the findings of ophthalmological studies in five. Only two of the five patients subjected to ophthalmological study had typical angioid streaks, but the three others showed disease of the choroid.

The histopathological picture of pseudoxanthoma elasticum is usually typical and diagnostic. It is not to be confused with the histopathological picture of senile skin (senile elastosis). As a rule pseudoxanthoma elasticum and angioid streaks are associated and present a definite syndrome. Frequently, however they occur independently of each other.

Their cause remains unknown. The most plausible explanation is that both result from degenerative changes of the elastic tissue due to a malformation (Missbildung) and have a hereditary basis.

No satisfactory method of treatment for either condition is known.

Pseudoxanthoma elasticum is harmless except for the cosmetic disfigurement but angioid streaks are frequently followed by or associated with choroiditis of varying degree and therefore have a less favorable prognosis.

Filatov V P. Transplantation of the Cornea. *Arkh Ophth* 1935 13 321.

The author has performed transplantation of all of the cornea: transplantation of part of its layers and partial penetrating transplantation. He has performed the partial penetrating transplantation most frequently and successfully. In transplantation of the whole cornea glaucoma is the most serious complication. Transplantation of part of the corneal layers has been more satisfactory. The author describes in detail the preliminary care of the operative field, the fixation of the transplant, the excision of the transplant, the trephining of the leucoma and the fixation of the transplant. The most common complications during the operation have been injury to the lens, the escape of vitreous and expulsive hemorrhage. The postoperative complications have been slipping off of the transplant, the escape of vitreous, the formation of a fistula and the development of anterior synechiae causing glaucoma.

Filatov believes that total corneal transplantation is still in the experimental stage and that partial penetrating corneal transplantation is the most important operation for transplantation of the cornea. VIRGIN WESCOTT M D.

Sorsby, A. Congenital Coloboma of the Macula. Together with an Account of the Familial Occurrence of Bilateral Macular Coloboma in Association with Apical Dystrophy of the Hands and Feet. *Brit J Ophth* 1935 19 83.

Sorsby reviews the literature on congenital macular coloboma: twenty bilateral cases, thirty six uni-

lateral cases, and three (possibly five) cases in which the condition was familial. He states that there is nothing in the ophthalmoscopic appearance of the lesion to indicate definitely that it is of congenital rather than postnatal origin.

Attention is called to cases in which a macular coloboma was associated with a typical choroidal coloboma in the same eye, and to cases in which macular coloboma was associated with other atypical colobomatous defects.

Non-pigmented colobomata tend to be more deeply excavated than pigmented colobomata.

It appears that, in addition to the recognized varieties of non-pigmented and pigmented macular coloboma, a third type, aptly described as a wheel-figure, has a fairly characteristic appearance. In the latter the center is white and pigmented spokes radiate from it toward a pigmented rim.

Studies of the pathological anatomy of macular coloboma, though not conclusive, appear to indicate that there is no basis for the belief that congenital macula colobomata are the result of intra-uterine inflammation.

The author describes a family consisting of a mother and five children, all of whom showed bilateral pigmented macular colobomata and apical dystrophy of the hands and feet. One of subjects had also a solitary kidney.

Attention is called to the studies of Landauer on the creper fowl, a breed characterized by skeletal defects and ocular abnormalities, and to the experimental production by Bagg and Little of hereditary defects involving the eyes, feet, and kidneys in mice.

Arguments are advanced in favor of regarding macular coloboma as a localized choroideremia.

LESLIE L. MCCOY, M D

EAR

Layton, T. B., Jory, N., Symonds, C. P., Watson-Williams, E., and Others: Discussion on Meningitis of Otitic Origin. *Proc Roy Soc Med*, Lond, 1935, 28, 529.

LAYTON Clinically, cases of otitic meningitis fall into two groups: those in which the condition has its origin in a recent mastoid infection and those in which it develops in the presence of old disease. In the treatment of cases of the first group the chief requirement is thorough washing out of all debris in the mastoid cavity with the use of as much as 2 gal of fluid or more if necessary. Meningitis shows three stages. The first stage is accompanied by neck rigidity but no other symptoms. In the second stage Kerning's sign is also present. In the third stage there is the typical picture of grave meningeal involvement.

JORY The cerebrospinal fluid is of most importance. A pressure over 200 mm is pathological, a cell count of from 6 to 10 is suspicious, and a cell count of more than 10 is definitely pathological. A high polymorphonuclear count indicates bacterial invasion. Glucose is usually absent in septic meningitis.

In the acute cases, the magnesium remains unchanged, whereas in chronic cases it shows a decrease.

SYMONDS: Infection may extend from the middle ear to the meninges directly along thrombosed and infected vessels in the bone which communicate with the vessels in the subarachnoid space, more or less directly through the labyrinth; or step by step through the bone, dura, and arachnoid.

JOHN T. DRENN, M D

Eves, C: The Diagnosis of Acute Suppuration of the Petrous Pyramid. *Ann Otol, Rhinol & Laryngol*, 1935, 44, 97.

Eves states that suppuration of the petrous pyramid is the most recently recognized complication of purulent otitis media.

When there is sufficient drainage through a fistulous opening into the middle ear an acute suppuration of this type may terminate in chronic purulent otitis media or, if the cell structure is favorable, may heal spontaneously. If drainage is not sufficient, some form of surgical assistance is necessary.

It is believed that in many cases of chronic suppurative otitis media the infection has its origin in the petrous pyramid.

When a radical mastoidectomy is performed for the relief of a chronic discharge and necrotic granulation is found in the middle ear, especially in the region of the eustachian tube, a fistula leading through the peritubal cell into the petrous bone should be suspected.

The clinical picture of acute suppuration of the petrous pyramid requiring surgical drainage is characterized by nocturnal attacks of pain in, around, and back of the eye and in the temporo-parietal region of the affected side which occur with increasing intensity over a period of a few weeks in association with acute purulent otitis media and mastoiditis, a low grade septic temperature, and evidence of progressive involvement of the petrous pyramid shown by serial roentgenograms.

JAMES C. BRASWELL, M D

Kopetzky, S. J., and Almour, R: A Report on Ten Cases of Suppuration in the Petrosal Pyramid. *Ann Otol, Rhinol & Laryngol*, 1935, 44, 50.

To the seventeen cases of suppuration in the petrosal pyramid which they have reported previously the authors add ten more cases, nine of which presented fistulous tracts leading into the petrosal apex.

In four of the ten cases simple mastoidectomy with adequate widening of the fistula and drainage was sufficient for cure. In six cases radical mastoidectomy was necessary to reach the site of the fistulous opening.

In two cases, sixth nerve palsy was present prior to exploration of the petrosal apex, and in one case it developed after drainage of the petrosal apex.

In two cases endocranial rupture of the lesion in the petrosal apex was proved by lipiodol injection.

In one case a lateral pharyngeal abscess of petrosal origin appeared with a sixth nerve palsy.

One of the patients died and nine recovered. Five other patients operated on by the authors, whose cases are not reported in this article, also recovered.

In all the authors have had thirty two proved cases of suppuration in the petrosal pyramid. Twenty seven were cured by surgical attack on the lesion in the petrous apex.

Of the five deaths, one was that of a patient who was not operated upon and whose lesion was not recognized. This was the first case studied by the authors. Of the four other deaths three occurred in cases in which operation was performed in the presence of a fully developed purulent lepto meningitis and one in a case of brain abscess.

In all of these cases the nature of the condition was proved by the findings at operation and on roentgen examination after lipiodol injections.

JAMES C. BRISWELL, M.D.

NOSE AND SINUSES

Price, L. W. Malignant Tumors of the Nasal Mucosa. *J. Laryngol. & Otol.* 1935 50 433

Price reports on a series of thirteen malignant tumors of the nose and nasal accessory sinuses which differed widely in type. Seven occurred in women and six in men. The ages of the patients ranged from eighteen to seventy eight years. Nasal tumors show a wide variety because of the great diversity of the normal histological cell type in the nose. This is true particularly in the nasopharynx where the mucosa presents a wider morphological range than in any other strictly limited epithelial area. In many nasopharyngeal tumors marked variations in morphological structure are found in different parts of the same neoplasm. These are probably due chiefly to difference in ontogeny although metaplasia plays a part.

The difficulty in the early diagnosis of tumors of the nasal mucosa is well recognized. The importance of obtaining material for histological diagnosis at the earliest possible stage cannot be overemphasized. It is suggested that aspiration of fluid or tissue like fragments through a cannula be attempted.

The sign which is probably of most importance is swelling over the cheek. Also of importance are epistaxis and pain but pain is absent until the process is well advanced.

The prognosis is generally poor partly because of the close relation of the tumors to vital structure and the frequency of bone invasion but chiefly because of the inaccessibility of the neoplasms.

JOHN F. DUFFIN, M.D.

MOUTH

Bernard, R. Simple Glandular Chelitis or Puente's Disease. (*La chéilite glandulaire simple ou maladie de Puente*). *Bruxelles méd.* 193 15 458

Simple glandular chelitis or Puente's disease was first described as a clinical entity by Puente in 1917.

In 1933 Puente's observations were confirmed by Touraine and Solente. In 1934 Puente published a monograph based on fifty two cases.

The disease begins in the middle third of the lower lip and gradually extends to include all but the commissures. The lesions are located between the surface of closure and the cutaneous border of the lip. Hence they are visible when the mouth is closed. They consist of from ten to twelve bluish red plaques which correspond to orifices of salivary glands. At first they are flat but later they become elevated and acquire a pearly white border of leucoplakia. Still later they appear as white sharply defined elevated areas with slightly depressed red centers ranging from 2 to 6 mm in diameter. Occasionally the underlying glands give a shotty feel to the lip. When the lip is pressed a clear mucus appears in the orifices of the gland. Subjective symptoms are practically absent.

A complication of this disease is the apostematous chelitis described by Volkmann in 1870. In the latter condition the lip becomes swollen and painful and its surface is covered by thick moist black foul smelling crusts. Detachment of the crusts exposes a smooth or slightly ulcerated surface which bleeds easily and persistently. A turbid fluid due to suppuration in the glands can be expressed.

Simple glandular chelitis develops slowly and shows no tendency to regress. The prognosis is should be guarded because of the possibility of the development of cancer on the basis of the leucoplakia.

Apart from the septic character of the skin of the individuals affected there is no constant etiological factor.

No satisfactory treatment has been found. Puente proposed curettage and electrocoagulation. Irradiation may be tried.

ALBERT F. DE GROOT, M.D.

Mueller, K. The Results of Palatoplasty by the Method of Victor Veau on the Basis of 100 Cases. (*Ueber die Ergebnisse der Gaumenplastik nach Victor Veau an Hand von 100 Fällen*). 1934 Leipzig: Verlag.

Mueller reviews the results of 100 palatoplasties and palatoplasties in which he assisted. Postnatal forty nine of the patients were males. Inheritance of the defects was proved in 13 cases its incidence being therefore in agreement with the incidence reported in the literature which is from 12 to 20 per cent. Other deformities were found in 15 cases. These included 7 umbilical hernias 2 inguinal hernias 1 receding jaw 1 small jaw with partial ankylosis 1 marked crura vara 1 tail formation over the coccyx associated with hypoplasia 1 case of syndactylism of the second and third toes of each foot and a small opening over the coccyx and patent ductus Botalli. As a consequence of the malformation of the palate chronic nasopharyngeal catarrh was present in 20 cases and middle ear disease in 14. Tonsillitis was frequent, and most of the children presented enlargement of the palatal and pharynx.

geal glands. Some of the patients had gastro-intestinal disturbances and suffered from malnutrition. Except in 2 cases, the mentality was normal.

The operative procedures of Veau are described in detail. The best time for operation is between the second and third years of age. General anesthesia is used for small children and local anesthesia for older children. In the after-care acetone celluloid is applied over the sutured parts to facilitate feeding.

Of 91 cases of cleft palate not previously operated upon, healing occurred without complication in 67. Of 9 in which a previous operation had been performed, primary union resulted in 6. There were 2 deaths, those of children between ten and thirteen months old who died on the tenth and one hundred and ninth day after the operation, one from severe intestinal grippe, the other from influenza.

The importance of systematic speech training and orthodontic care is stressed.

(A KAERGER) THOMAS W. STEVENSON, JR., M.D.

Levi, L. M., and Hankins, F. D.: Carcinoma of the Lingual Thyroid. *Am J Cancer*, 1935, 23, 328.

A woman twenty-one years of age sought advice because of interference with deglutition and the presence of a painful lump in the back of the throat. On examination the lump was found to be a firm, solid tumor located in the midline on the posterior third of the tongue. Its surface was a dull red and slightly lobulated. Its base was broad, extending well out toward either edge of the tongue. There was some impairment of speech. The patient had felt well until five days before her admission to the hospital. The lesion was widely excised with the actual cautery knife under ether anesthesia.

Microscopic examination of the tumor disclosed an overlying squamous epithelium, subepithelial lymphocytic infiltration, and a fibrous capsule. The mass was composed of highly irregular and poorly formed acini of the thyroid type with occasional small amounts of colloid. The acinar cells were large and ovoid or spherical. They often stained deeply, and they showed some poorly formed mitotic figures. The fibrous capsule was extensively invaded by neoplastic cells.

Because of the presence of definite malignancy complete destruction of the lingual thyroid appeared necessary although the thyroid gland could not be demonstrated in the neck. Three months after the operation the patient developed clinical manifestations of myxedema. The basal metabolic rate was -30. Response to treatment with thyroid extract was very satisfactory. Nine months after the operation there was no speech impediment and no evidence of recurrence.

JOSEPH K. NARAT, M.D.

NECK

Blair, D. M., Davies, F., and McKissock, W.: The Etiology of the Vascular Symptoms of Cervical Rib. *Brit J. Surg.*, 1935, 22, 406.

In a small proportion of cases of cervical rib the symptoms are predominantly of a vascular nature,

motor and sensory symptoms being absent or very slight. Telford and Stopford have recently suggested an anatomical basis to account for this phenomenon. In a cadaver without cervical ribs they found, in the inferior part of the lower trunk of the brachial plexus, a distinct and separate bundle of unmyelinated fibers which they interpreted as the sympathetic fibers passing to the upper limb by way of the lower trunk and not yet incorporated with the fibers of the trunk. Therefore the fusion of the sympathetic fibers with the lower trunk occurred at a point more distal than usual. Telford and Stopford concluded that under such circumstances the separate bundle of unmyelinated fibers would be more immediately exposed than the motor and sensory fibers to pressure by the subjacent rib. They postulated also that, given the same condition in a patient with cervical ribs, the symptoms would be predominantly vascular and of the nature of chronic arterial spasm induced by prolonged irritation. Prolonged arterial spasm would cause constriction or even obliteration of the vasa vasorum with consequent nutritional changes in the arterial walls and perhaps even thrombosis. The vascular effects in cases of cervical rib occur only in the portion of the artery distal to the axillary artery because the subclavian and axillary arteries receive their sympathetic supply directly from the sympathetic chain, while the more distal vessels of the arm receive their innervation from the adjacent nerve supply of the brachial plexus.

The authors report a case of cervical rib producing unilateral pronounced vascular effects in which a histological examination of the brachial plexus was made. At operation, the subclavian artery was found free from pressure by the cervical rib even when the arm was pulled down by the side. The lower trunk of the brachial plexus lay in immediate contact with the upper aspect of the cervical rib and the first dorsal contribution to the lower trunk was stretched taut as it passed upward and laterally. The cervical rib was excised, but the patient died on the eighth postoperative day of a pulmonary complication.

On the basis of their observations and study the authors agree with Telford and Stopford that the clinical picture is due to irritation rather than paralysis of the sympathetic (vasoconstrictor) fibers. Since, in the case they report, arterial pulsation did not return to normal and disappearance of pain was incomplete immediately after removal of the cervical rib, they conclude that the irritation of the sympathetic fibers is not due entirely to mechanical pressure of the rib. They believe that a chronic aseptic inflammatory lesion of the nerve produced by pressure of the cervical rib is an important factor in the production of symptoms. They state that this lesion will clear up only gradually after removal of the exciting cause. In support of their theory they cite the thickening of the endoneurium and proliferation of the endoneurial nuclei in the inferior part of the lower trunk of the plexus. Although in their case a small number of unmyelinated fibers existed separately near the lower part of the plexus, most of the

unmyelinated fibers were in the lower trunk without anatomical segregation proximal to the region of contact with the cervical rib. They therefore disagree with the theory of Telford and Stopford that anatomical segregation of unmyelinated fibers in the form of an unjoined ramus is necessary before vasomotor symptoms occur. They attribute failure of operation to relieve the symptoms in long standing cases to progression of a chronic inflammatory change into permanent fibrosis. Therefore they conclude that early operation is indicated.

ARTHUR S. W. TUGGERS, M.D.

Bernheim A. R. and Garlock J. H. Parathyroidectomy for Raynaud's Disease and Scleroderma. *Ann Surg* 1935 101 1012

As a result of observations continued over a number of years which will be reported in detail in a subsequent communication the authors have formed the opinion that disturbances in calcium metabolism are factors in the development of Raynaud's disease and other vasospastic conditions.

Exactly how disturbances in calcium metabolism produce the various manifestations seen in vasospastic conditions is not altogether clear. It is suggested that as calcium affects the permeability of every cell in the body, the results of insufficiency of the calcium intake may be exceedingly varied. It is suggested also that the constitutional factor is of great importance in determining the reaction of different individuals to disturbances of calcium metabolism and therefore to the development of different clinical manifestations. The constitutional factor may be considered to depend upon a local inferiority which renders tissues more susceptible to damage such as that produced by a decrease of the blood supply caused by vasospasm.

To understand the rationale of parathyroidectomy in these conditions it is necessary to assume that one of the functions of the parathyroid glands is the maintenance of a constant serum calcium level of from 10 to 15 mgm per 100 ccm. With long deficiency in the calcium intake the stores of body calcium become exhausted and the parathyroid glands become hyperplastic apparently because of their increased physiological activity in withdrawing calcium from depleted bones and possibly also from other tissues. The hyperplasia may be therefore regarded as a work hypertrophy of the parathyroid glands. The constitutional factor becomes a part of the picture and eventually various clinical symptoms bring the patient to the physician. Whether the form of calcium drawn from the bones is a different variety from that supplied by an adequate diet is still a matter of conjecture.

If patients with vasospastic conditions are given an adequate calcium regimen many of them will respond favorably. That is there will be a marked amelioration of the symptoms due primarily to the vasospasm. This has been the authors' experience in many cases of Raynaud's disease, thrombo-angitis obliterans and arteriosclerosis. It is their concep-

tion that in such cases, following adequate treatment with calcium the parathyroids are relieved of the extra work of drawing calcium from the bone reserve and may soon return to a normal physiological state. However in certain instances improvement does not take place in spite of prolonged treatment. The authors believe that in such cases a change of a more or less permanent nature resulting in hyperplasia or disturbance of function has taken place in the parathyroids and removal of two or more parathyroid bodies is indicated.

Up to the present time six of the authors' patients who were not benefited by conservative therapy have been subjected to parathyroidectomy. Three presented generalized scleroderma with moderately severe Raynaud manifestations in the hands and feet. One showed advanced sclerodactylia with symptoms of vaso spasm in the hands and feet. Two presented the picture of Raynaud's disease uncomplicated by skin changes. In all marked relief of symptoms due to vasospasm was noted after the operation. The relief of pain and restoration of the color of the involved extremities to normal occurred practically within twenty-four hours. The most astonishing results were noted in the cases of uncomplicated Raynaud's disease. The fingers of the patients with this condition which were a deep purple before the operation regained their normal color within twenty-four hours and did not change again even after immersion in ice water. Rapid improvement was noted in the oscillometric determinations both in the range of the oscillation and the degree of spasm. Improvement of the surface temperature was also evident. Up to the present time after the lapse of from three months to a year these patients have continued to do well.

The six cases are reported in great detail especially with regard to the ante-operative study and preparation. Various aspects of the operative technique are summarized.

Arbuckle M. F., Cowdry E. V. and Votaw R. The Effect of Radium Emanations on the Laryngeal Cartilage. *Arch. Otolaryngol.* 1935 21 249

Because of the difficulties encountered in the treatment of malignant disease of the tonsil, hypopharynx and larynx the treatment has proved inadequate in a large percentage of cases. The authors discuss surgical removal, destruction by heat irradiation and the combination of surgery and irradiation. In the late stages of the disease successful results are unlikely to be obtained by any method of treatment. Difficulties due to interference with respiration, swallowing and injuries to the laryngeal cartilage, the thyroid gland, and the great vessels greatly increase the problem. Many clinicians have been discouraged with the results of irradiation. However increased knowledge of radium, its emanation and roentgen rays and improvement in the methods of their application have aroused renewed hope in the use of radiotherapy. In many cases

irradiation is the only method possible. The authors regard it as debatable whether irradiation should be used when surgical removal can be carried out.

This article deals chiefly with the effect of radium emanation (radon) in or near cartilage without destruction of the latter. The authors quote Thomson and Colledge as stating that failure has been the result of incorrect and usually excessive doses of irradiation improperly applied. It is thought that gold seeds permitting the use of the shorter gamma rays may be superior to X-ray treatment. The authors consider gold seeds to possess advantages over all other containers in this field. In support of their opinion they cite several cases and present photographs of cartilage of patients and dogs which was exposed to radon. The findings of experimental work indicate that the lethal dose of gamma rays for cancer cells may be below that for cartilage cells, and that the likelihood of injury to cartilage from the treatment may not be so great as has been supposed. Methods for staining and preparing the experimental tissues are described. The reactions to the seeds exhibited features common to all tissues. In the cartilage, however, the most permanent irradiation effects were an accumulation of fluid and coagulative necrosis. In the loose connective tissue the effect was manifested at a distance of 0.5 mm, whereas in cartilage little effect was produced 0.1 mm away from the seed. The authors compare the effects of irradiation from seeds in muscle and in cartilage. The effect of irradiation on cartilage was much less noticeable than the effect on muscle. In fact difficulty was experienced in characterizing and measuring the cartilage effect even after doses of from 66 to 200 mc-hrs. Swelling of the cartilage and of the intercellular substances due to the taking on of water spread the nuclei farther apart, but no phagocytic cells were seen in the perichondrium or in the cartilage and no dead material requiring removal was found. The fact that edema was present in the cartilage in some cases and absent in others raised doubt as to the factors or factor responsible for the condition. The authors gained the impression that infiltration with calcium salts was more marked in the irradiated cartilage than in the control specimens. These experiments demonstrated clearly that seeds do not bring about changes such as necrosis and perichondritis in the cartilage at the distances mentioned in the description of the experiments. The exposures and their effects are shown in a table. The authors state that further work is necessary to explain exactly how cartilage is influenced by irradiation.

The authors believe that a combination of gold seeds planted directly into the tumor plus high voltage X-ray irradiation is more efficacious than X-ray irradiation alone. They state that while complete removal is the method of choice for the treatment of malignant disease, help may be expected from gold seeds when this is impossible. Since cartilage is one of the least cellular tissues of the body, it would be expected to be resistant to irradiation. However,

because of its vascularity and slow exchange of fluid, it may have a special reaction to such treatment.

A. JAMES LARKIN, M.D.

Jackson, C., and Jackson, C. L.: *Dysphonia Plicæ Ventricularis: Phonation with the Ventricular Bands*. *Arch Otolaryngol*, 1935, 21, 157.

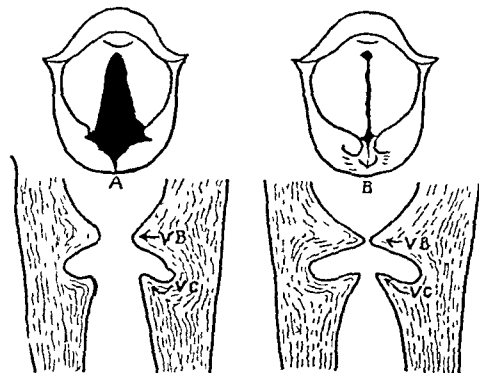
Dysphonia plicæ ventricularis is a rather frequent and usually unrecognized type of hoarseness due to phonation with the ventricular bands or difficulty in phonation due to vicarious assumption of the function of the true vocal cords by the false cords (ventricular bands).

In some cases sluggish approximation of the vocal cords seems to allow the ventricular bands to approximate first, the true cords being thereby covered and prevented from vibrating. Sluggish action of the cords may be due to impairment of muscular activity, fatigue of the muscles, impairment of innervation, or arthritis of the crico-arytenoid joints. Obvious causes of malfunction of the arytenoids are tuberculosis, syphilis, contact ulcer, and cancer.

In some cases the ventricular bands seem to be extremely alert and abnormally quick to respond so that they act before the true cords. This characteristic appears to be associated in some cases with muscular hypertrophy.

In other cases the ventricular bands take on the function of the true cords when one or both of the latter have been destroyed by disease or removed surgically or are congenitally rudimentary.

In well-established cases of phonation with the ventricular bands the voice is deep and has a rough quality. Vocal training may result in smooth phona-



Schematic illustration of the mechanism of phonation with the ventricular bands from a combination of hypertrophic, aggressive activity of the bands with sluggish activity of the vocal cords. On inspiration, A, the cords are invisible under the hypertrophic ventricular bands. On phonation, B, the cords approximate but not quickly enough to reach the midline before the aggressively active ventricular bands have reached contact in the midline and have begun to vibrate. VB, ventricular bands VC, vocal cords.

tion almost normal in pitch. Double voice (dysphonia) is nearly always present in the early stages and breaking of the voice is common. Sometimes two tones are produced at once, the true cords and ventricular bands functioning alternately. Vocal fatigue is common.

Although the diagnosis is usually made by examination through the laryngeal mirror it sometimes requires direct laryngoscopy.

The treatment varies with the findings. In cases with loss of the true cords, vocal training is the only therapy possible. In the cases of patients with good cords and overactive ventricular bands, vocal training or checking of the action of the ventricular bands by nipping out a small bit of tissue from the center of the free edge of the bands is indicated. However, before the latter is undertaken, one must be certain that the vocal cords can be approximated and tensed and can vibrate normally.

ARTHUR S. W. TOLKOFF, M.D.

Kramer R. and Som M. L. Local Tumor Like Deposits of Amyloid in the Larynx. Report of a Case with a Review of the Literature. *Arch Otolaryngol.* 1935, 21, 324.

On the basis of the literature, Kramer and Som classify cases of amyloidosis into the following four groups:

1. Those of local amyloid deposits occurring in areas of chronic inflammation or within neoplasms. Such deposits may be primary or secondary.

2. Those of local tumor like amyloid deposits constituting a part of a general amyloidosis. The local amyloids may precede a general amyloidosis.

3. Those of a typical general amyloidosis in which such structures as muscles, the lungs, the heart, the skin and the upper air passages are involved. Lubarsch distinguishes five subtypes characterized by: (a) almost complete exemption of organs characteristically involved in the usual type of case; (b) the deposition of amyloid in organs usually spared; (c) a tendency toward the formation of nodular deposits of amyloid; (d) an atypical reaction of the amyloid to the usual specific stain; and (e) absence of a demonstrable underlying cause such as chronic supuration.

4. Those of idiopathic or primary tumor like amyloid deposits without a demonstrable etiological factor. Such deposits are not to be regarded as true blastomas. They occur most frequently in the upper air passages and the conjunctiva and less frequently in the bladder and stomach. According to Lillak, this type of amyloid is characterized by: (a) multiplicity of lesions in the involved organ, especially the larynx; (b) involvement of contiguous organs such as the cheek, the tongue, the larynx and the trachea in a similar manner; (c) a transparent waxy appearance of the tumor; and (d) absence of ulceration, glandular involvement and pain.

The case of amyloid deposits in the larynx which is reported by the authors was that of a girl nineteen years old who presented the regional idiopathic

type of amyloidosis without involvement of adjacent organs. The history of the case is supplemented by an illustration showing the gross laryngoscopic picture and two photomicrographs showing the detailed structure of the lesion.

In a review of the literature the authors include statistical data on the incidence of the condition as regards sex, localization, symptoms, onset, appearance, recurrence, differential diagnosis and therapy. Radical removal by direct or suspension laryngoscopy followed by the intravenous injection of Congo red is recommended. Good results and even cures have been obtained by complete removal. When complete extirpation has been impossible, radiotherapy has been instituted. The authors are uncertain about the value of radiotherapy or liver therapy for the eradication of amyloid.

MINAS JOANIMIS, M.D.

Salinger S. Carcinoma of the Larynx. Surgical Considerations. *Laryngoscope* 1935, 45, 174.

It is generally agreed that laryngofissure is indicated when there is an isolated lesion on one vocal cord with both ends of the cord free from disease, no subglottic extension and no impairment of the mobility of the cord. However, cases of such lesions constitute only a small percentage of the total number of carcinoma of the larynx. With regard to the advisability of laryngofissure in cases in which the lesion extends to the anterior commissure or the subglottic space and the mobility of the cord is impaired, opinions differ. The operation may be rendered more radical by subperichondral dissection, excision of the thyroid cartilage, postoperative coagulation and post-operative radium irradiation.

The extent of involvement of the adjacent tissue found on microscopic examination varies with the grade of malignancy. In cases of Grade 1 there is no involvement of the adjacent tissue, whereas in those of Grade 4 the extent of involvement of the adjacent tissues may be as great as 15 mm. and averages 6 mm. The procedure of choice in the treatment of the more malignant lesions is laryngectomy.

As originally performed, laryngectomy had a mortality of 50 per cent. Today its mortality has been reduced to from 3 to 5 per cent. The improvement has been due to the suturing of the tracheal mucosa to the skin (Gluck), more accurate hemostasis, better closure of the hypopharyngeal defect, working of the trachea to prevent the aspiration of blood and mucus and new methods of inducing anesthesia.

Laryngotomy is possible if the patient is not too debilitated, the disease does not involve the pyriform fossa or the base of the tongue, the tracheal esophageal wall is not infiltrated and there are no metastases in the neck.

In conclusion the author says that the difficulty of obtaining a proper speaking voice has been exaggerated. A cure is obtained in from 75 to 85 per cent of cases of intrinsic carcinoma of the larynx.

HARRY C. SALTZMAN, M.D.

Beck, J. C., and Guttman, M. R.: Carcinoma of the Larynx; Some Conclusions Derived from Personal Experience. *Laryngoscope*, 1935, 45: 174.

Carcinoma of the larynx is responsible for 1.8 per cent of the total number of deaths from cancer. The authors review 500 cases of carcinoma of the larynx treated by them. Of the 108 treated surgically, total laryngectomy was performed in 86 and laryngofissure in 22.

In some of the cases there was a history of abuse of the voice, and in a few, smoking, papillomas, or keratosis played a rôle in the development of the lesion. One hundred and twenty-four of the carcinomas were intrinsic. Of these, 113 involved the anterior two-thirds of a cord, 9, the ventricular bands, and 2, the ventricle. Of the 13 extrinsic carcinomas, 4 involved the epiglottis; 7, the pyriform sinus, 1, the aryepiglottic fold, and 1, the post-cricoid region.

Extrinsic carcinomas of the larynx, which the authors regard as inoperable, include growths involving epiglottis, the aryepiglottic fold, the post-cricoid region, the pyriform sinus, and the posterior two-thirds of the true or false cords. Also inoperable are the primarily intrinsic growths that involve these areas by extension.

Seventy-five per cent of laryngeal cancers become inoperable because of delay of treatment.

Of 72 carcinomas of the larynx studied by the authors, 69 were of the adult well-differentiated squamous-cell type and 3 of the transitional-cell type.

Most malignancies of the larynx grow slowly and form metastases late. The old theory that the cartilaginous laryngeal box prevents the spread of laryngeal cancer is incorrect as the larynx is open above, below, and posteriorly and is richly supplied with lymphatics.

When palpable lymph nodes are found the prognosis is hopeless. Impairment of the mobility of a cord is not an early sign of cancer of the larynx, and normal mobility does not rule out malignancy. Fixation of the cords did not occur in any of the 22 cases in which the authors performed laryngofissure, but resulted in every case in which a recurrence developed after laryngectomy. Fixation of the cord contra-indicates laryngofissure.

The authors' results with irradiation therapy used alone have been unfavorable. The effects of X-ray irradiation were not permanent. The use of a 4-gm. radium pack at a distance of from 6 to 15 cm. caused disappearance of the growth in several instances, but was followed by recurrence in a number of cases. The Coutard method of protracted fractional irradiation has frequently been followed by recurrence. However, the authors use irradiation as an adjunct to surgery.

Laryngofissure effects a cure in 80 per cent of the small number of cases in which it is indicated. Of the authors' 22 patients who were treated by this operation, all but 1 are alive. Of the 86 who were treated by laryngectomy, 50 per cent are still alive at the end of five years. There was 1 operative death.

HARRY C. SALTZSTEIN, M.D.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS, CRANIAL NERVES

Scott S. The Diagnosis and Treatment of Abscess of the Brain. *J. Laryng. & Otol.* 1935 40 106

Following a historical review of the early successful operations for drainage of abscesses of the brain and a general summary of the symptoms of such abscesses, the author describes his operative procedure in some detail. He believes that when the abscess is secondary to middle ear disease the mastoid should first be explored and Schwartz's operation should be performed. The radical mastoid operation should not be done unless the usual local indications for it are present.

In his procedure the dura mater is exposed by removing the roof and the posterior wall of the mastoid cavity. In cases of cerebral abscess the tegmen and the lateral wall of the middle cranial fossa are removed from below upward with the use of bone cutting forceps. In cases of cerebellar abscess the dura mater is exposed beyond and below the sigmoid sinus to the cerebellar fossa of the occipital bone. On the inner side of the sigmoid sinus Trautmann's area is often the pathway of infection from the antrum of the cerebellum. To attain this cranial exposure a vertical incision of the scalp temporal muscle and pericranium is made from the upper end of the original mastoid incision and a horizontal incision is made in the plane of the Frankfort line (infra-orbital supramental level) to expose the cerebellar fossa.

The dura mater is incised at the apparent site of invasion whenever this can be determined. The abscess is opened with a special brain exploring forceps. Drainage tubes are attached to the pericranium or dura mater so that they will remain in the desired position even if there is subsequent swelling and edema of the scalp. The wound is only partly closed. When enucleation of the abscess is impossible it is closed almost completely by sutures. The dressings and tubes are not touched for five or six days. The author reports a few cases in detail.

ROSEW. ZOLLINGER M.D.

Fuasepp L. The Clinical Aspects and Treatment of Brain Abscesses. (*Zur Klinik und Therapie der Hirnabscesse*). *FoL neuropath. etia.* 1934 13 66

This article is based on the author's observations in 9 cases of brain abscess seen in a period of thirty years. Two hundred and sixty-four of the abscesses were due to war injuries and 37 were of non-traumatic origin. Abscesses are among the most serious lesions of the brain and in the author's opinion constitute one of the most hopeless conditions of surgical neuropathology. Including abscesses of otogenous

origin, the author attributes not over 1 per cent of brain abscesses to operations on the brain. In war time however cerebral abscesses of traumatic origin constitute about 2 per cent of the lesions resulting from traumatic injuries of the skull. In from 80 to 85 per cent of cases traumatic and otitic brain abscesses are solitary. Metastatic abscesses are more frequently multiple. According to Martin they are multiple in 60 per cent of cases.

The author discusses the pathogenesis, pathological anatomy, symptomatology, differential diagnosis and prognosis in general and then reports in more detail his own observations with regard to metastatic abscesses of the brain, brain abscesses due to diseases of the cranial cavity, brain abscesses of traumatic origin without injury of the skull, late abscesses and abscesses following open skull injuries. Next he describes the operative technique for puncture, permanent drainage, opening of an abscess with subsequent drainage, joining of the abscess wall to the dura, extirpation of the abscess with the wall of the capsule and opening of the abscess with removal of the overlying portion of brain.

The article contains a number of illustrations and a review of the literature with special reference to Willich's *Spezielle Chirurgie der Gehirnerkrankheiten*. It is concluded with a brief clinical evaluation of the various operative methods, a discussion of their indications and a report of the author's results from operation.

The results of operation depend upon the time at which the operation is performed, the virulence of the bacteria, the depth of the abscess and the operative method. Of 23 cases of brain abscess which the author treated by puncture, recovery resulted in 60 per cent. Of 108 cases in which the ordinary drainage method was used, recovery resulted in only 9 per cent, whereas of 115 cases in which the author's method of drainage was employed, recovery resulted in 25 per cent. The factor having the most unfavorable effect on the prognosis is rupture into a ventricle. Of 12 patients who were operated upon for the brain abscess developing by continuity, 41 per cent recovered and of 18 operated upon for abscesses having their origin in the frontal sinus, 46 per cent recovered. In cases of late abscess following trauma the incidence of recovery was only 16.7 per cent, whereas in 4 cases of late abscess without injury to the skull it was 75 per cent. Of 107 cases of abscess following an open wound of the skull in which the wound remained open and the pus was able to escape, good results were obtained in 83 per cent, whereas of the cases in which debridement was followed by primary closure of the wound, good results were obtained in only 25 per cent. Of 66 cases of true traumatic brain abscesses that is abscesses

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Paggi, B.: A Case of Liponecrosis of the Breast with Xanthomatous Degeneration (Considerazioni sopra un caso di liponecrosi della mammella con degenerazione xantomatosa) *Policlin*, Rome, 1935, 42: ser. chir. 102

A middle-aged woman who had had five pregnancies discovered a painless lump in the breast six months previous to her admission to the hospital. For five months the lump remained unchanged, but at the end of that time it grew rapidly, became intensely painful, and showed inflammation and softening. A considerable amount of reddish milky sterile fluid was withdrawn. When first seen by the author, the tumor was the size of a lemon, hard, smooth, and elastic. Within six days the entire breast became involved and a large crater-like ulceration with hard, well-defined walls and containing granular débris appeared. The breast was amputated. There were no signs of multiple xanthomatosis. The blood cholesterol was not estimated.

Histological examination of the specimen showed fat necrosis with the characteristics of xanthomatosis. The facts that necrotic areas without xanthomatosis were present, and xanthomatosis was found only in connection with necrotic zones indicated that the latter condition was secondary. In the author's opinion the xanthomatous cell is probably of reticulo-endothelial origin and the morphological characteristics and staining reactions in this case constituted additional proof that the process is not a phagocytosis but the expression of the activity of the reticulo-endothelial system in lipid metabolism and the resorption of fat in necrotic areas.

Paggi identifies the first period of the clinical course, during which the tumefaction remained stationary and without symptoms, with the fat necrosis, and the second period, the period of rapid growth, inflammation, and softening, with the xanthomatous degeneration. The transition from the stony hardness of the nodule of necrotic fat to fluctuation is of aid in the differential diagnosis from carcinoma, and in fact suggests rather the possibility of tuberculosis.

The report includes illustrations and a bibliography. M. E. MORSE, M. D.

Bloodgood, J. C.: Borderline Breast Tumors: Biopsy and Postbiopsy Treatment. *J Am M Ass*, 1935, 104: 439.

The pathological type of distinctly palpable breast tumor subjected to exploration which has shown the greatest increase in frequency in the past three years is the borderline breast tumor.

In cases in which the palpable mass is small enough it is excised with a good margin of uninvolved breast tissue and the wound is closed. This can be done without producing loss of symmetry in the breast. The tumor is bisected and studied with the naked eye and an immediate frozen section is made and examined. If the surgeon and pathologist are confident that the tumor is distinctly benign, the wound in the breast is closed and no postoperative irradiation is given. If the surgeon and pathologist are convinced by the gross appearance and the frozen section that the tumor is distinctly malignant, an alcohol sponge or a gauze sponge saturated with a 50 per cent solution of zinc chloride and squeezed dry is placed in the wound, the skin is sutured over it, and the complete operation for cancer is performed at once.

The author has accumulated evidence which indicates clearly that there is no danger in closing the wound without either the alcohol or the zinc chloride sponge after removal of the malignant tumor and in subjecting the patient to postbiopsy irradiation. He has accumulated evidence also which indicates that when the malignant tumor measures less than 24 mm and has been present for only one month or less, local excision and postoperative irradiation may offer as much chance for permanent cure as the radical operation.

In his study of borderline tumors Bloodgood found that, with the rarest exceptions, such neoplasms are benign. Whether the complete operation is performed immediately or later, the axillary glands show no metastasis. In not one of the author's cases up to the time of the patient's death or at the present time if the patient is living has there been any sign of malignancy in the scar or of internal metastasis. The incidence of malignant involvement of the other breast has been identical with that in an equal number of cases of benign adenoma of the breast occurring at the same age and followed for the same length of time.

Bloodgood advises treating the borderline tumor on the operating table in the same way as a benign tumor but, after the operation, irradiating the breast and axilla while sections are being submitted to two or more widely experienced surgical pathologists. In his cases, irradiation over the axilla is given at once with protection of the breast wound, and irradiation over the breast and its wound within a week or ten days.

He believes he has sufficient evidence to justify his conservative advice regarding borderline tumors, especially those of the type that can be excised completely. He states that in cases of more diffuse tumors the conservative operation should be reserved for special clinics which have had large experience

reported case of neurofibroma arising from the hypoglossal nerve

His patient was a woman thirty years of age who complained of a painless progressive enlargement at the angle of the jaw on the right side which had begun one and one half years previously and had not been accompanied by any motor disturbance of the tongue or interference with speech. Examination revealed a smooth globular painless and apparently cystic mass occupying the entire superior carotid triangle on the right side. A probable diagnosis of large branchial cyst or aberrant thyroid was made.

At operation the tumor was found to occupy the portion of the hypoglossal nerve nearest its exit from the skull and to extend to about where the nerve normally crosses the tendon of the digastric muscle. It was entirely removed with a portion of the normal nerve. Its microscopic appearance was characteristic of neurofibromata with areas of edema, hemorrhage and fatty degeneration. Marked unilateral atrophy of the tongue developed.

The author emphasizes that while neurinomas are frequently benign they may assume sarcomatous characteristics.

ROBERT JOLLYNGER M.D.

SYMPATHETIC NERVES

Cacero J. A. Stellate Ganglionectomy (La estelectomia). *Semana med.* 1935 42 55

Cacero gives a detailed illustrated description of the surgical anatomy of the stellate ganglion and

discusses the comparative advantages of the cervical and the dorsal approach for removal of that ganglion.

He states that he usually prefers the cervical approach by which in some cases it is possible to extirpate the second thoracic ganglion. The dorsal route permits easy removal of the second thoracic but not the intermediate ganglion. Each operation complements the other for special indications. If total destruction of all the sympathetic fibers of the head, neck and upper limb is desired, resection of the intermediate, stellate and second thoracic ganglia is necessary. This is difficult if only one approach is employed. For the first intervention Cacero uses the cervical route. However when it is evident at operation or from the clinical evolution of the case that the removal has been incomplete the costal operation must be done in order to extirpate the second thoracic ganglion.

In all his operations both cervical and dorsal the author has successfully used simple infiltration with novocain and adrenalin. When the stellate ganglion is reached the tissues around it are infiltrated through an extremely fine needle and if possible a few drops of the anesthetic are injected into the ganglion.

Cacero has resected the stellate ganglion with good results in Raynaud's disease, angina pectoris, retinitis pigmentosa, exophthalmia and trigeminal neuralgia.

The article is followed by a bibliography.

M. E. MORSE M.D.

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Paggi, B : A Case of Liponecrosis of the Breast with Xanthomatous Degeneration (Considerazioni sopra un caso di liponecrosi della mammella con degenerazione xantomatosa) *Polidun*, Rome, 1935, 42 sez chir 102.

A middle-aged woman who had had five pregnancies discovered a painless lump in the breast six months previous to her admission to the hospital. For five months the lump remained unchanged, but at the end of that time it grew rapidly, became intensely painful, and showed inflammation and softening. A considerable amount of reddish milky sterile fluid was withdrawn. When first seen by the author, the tumor was the size of a lemon, hard, smooth, and elastic. Within six days the entire breast became involved and a large crater-like ulceration with hard, well-defined walls and containing granular débris appeared. The breast was amputated. There were no signs of multiple xanthomatosis. The blood cholesterol was not estimated.

Histological examination of the specimen showed fat necrosis with the characteristics of xanthomatosis. The facts that necrotic areas without xanthomatosis were present, and xanthomatosis was found only in connection with necrotic zones indicated that the latter condition was secondary. In the author's opinion the xanthomatous cell is probably of reticulo-endothelial origin and the morphological characteristics and staining reactions in this case constituted additional proof that the process is not a phagocytosis but the expression of the activity of the reticulo-endothelial system in lipoid metabolism and the resorption of fat in necrotic areas.

Paggi identifies the first period of the clinical course, during which the tumefaction remained stationary and without symptoms, with the fat necrosis, and the second period, the period of rapid growth, inflammation, and softening, with the xanthomatous degeneration. The transition from the stony hardness of the nodule of necrotic fat to fluctuation is of aid in the differential diagnosis from carcinoma, and in fact suggests rather the possibility of tuberculosis.

The report includes illustrations and a bibliography.

M E MORSE, M D

Bloodgood, J. C.: Borderline Breast Tumors: Biopsy and Postbiopsy Treatment. *J Am M Ass*, 1935, 104 439

The pathological type of distinctly palpable breast tumor subjected to exploration which has shown the greatest increase in frequency in the past three years is the borderline breast tumor.

In cases in which the palpable mass is small enough it is excised with a good margin of uninvolved breast tissue and the wound is closed. This can be done without producing loss of symmetry in the breast. The tumor is bisected and studied with the naked eye and an immediate frozen section is made and examined. If the surgeon and pathologist are confident that the tumor is distinctly benign, the wound in the breast is closed and no postoperative irradiation is given. If the surgeon and pathologist are convinced by the gross appearance and the frozen section that the tumor is distinctly malignant, an alcohol sponge or a gauze sponge saturated with a 50 per cent solution of zinc chloride and squeezed dry is placed in the wound, the skin is sutured over it, and the complete operation for cancer is performed at once.

The author has accumulated evidence which indicates clearly that there is no danger in closing the wound without either the alcohol or the zinc chloride sponge after removal of the malignant tumor and in subjecting the patient to postbiopsy irradiation. He has accumulated evidence also which indicates that when the malignant tumor measures less than 24 mm and has been present for only one month or less, local excision and postoperative irradiation may offer as much chance for permanent cure as the radical operation.

In his study of borderline tumors Bloodgood found that, with the rarest exceptions, such neoplasms are benign. Whether the complete operation is performed immediately or later, the axillary glands show no metastasis. In not one of the author's cases up to the time of the patient's death or at the present time if the patient is living has there been any sign of malignancy in the scar or of internal metastasis. The incidence of malignant involvement of the other breast has been identical with that in an equal number of cases of benign adenoma of the breast occurring at the same age and followed for the same length of time.

Bloodgood advises treating the borderline tumor on the operating table in the same way as a benign tumor but, after the operation, irradiating the breast and axilla while sections are being submitted to two or more widely experienced surgical pathologists. In his cases, irradiation over the axilla is given at once with protection of the breast wound, and irradiation over the breast and its wound within a week or ten days.

He believes he has sufficient evidence to justify his conservative advice regarding borderline tumors, especially those of the type that can be excised completely. He states that in cases of more diffuse tumors the conservative operation should be reserved for special clinics which have had large experience

in the treatment of borderline tumors of the breast elsewhere the complete operation for cancer of the breast should be performed in one stage

JOSEPH K. NARAT M.D.

TRACHEA, LUNGS AND PLEURA

Blackford, S. D. Pulmonary Manifestations in Human Tularemia. A Clinical Study. *J. Am. M. Ass.* 1935 104 891

This report is based on an analysis of the clinical evidence of pleuropulmonary involvement discovered in thirty-five cases in which the diagnosis of tularemia was made by either an agglutination test or recovery of the organism.

Physical and roentgenological signs of pulmonary consolidation were detected in seven cases. In this group the clinical criteria of tularemia were often lacking. Ulceroglandular lesions were apparent in only two cases. In the others, agglutination tests were made because of a fever of unknown origin or a chest condition of unproved etiology. The symptoms of pneumonia were variable. In all of the cases there was a cough without rusty sputum. Chills accompanied the onset of tularemic symptoms but were absent at the beginning of the pneumonia. Chest pain was absent in five cases but severe in two. The physical signs were those of lobular pneumonia. In one case the involvement was both lobular and lobar. The signs persisted for from three days to three weeks. The temperature fluctuated from 103 to 106 degrees F. and in the cases of the patients who survived the fever persisted after disappearance of the signs. The pulse rate was remarkably slow in relation to the fever. The leucocyte count was within the normal limits. Three of the seven patients died. Clinical bronchitis was diagnosed in twelve cases. In only seven of these was the bronchitis uncomplicated. The seven patients with uncomplicated bronchitis gave typical contact histories and exhibited the ulceroglandular lesions of tularemia.

All of the patients had a moderate to severe cough. It began in most cases within a week of the tularemic inoculation and continued for from a few days to more than thirty months. In four cases it was unproductive. There was no chest pain. Rales were heard in every case. In some cases they were harsh and in others generalized and coarse. Roentgen studies did not confirm the suspicion of pneumonia in two cases. In two cases there was a high and protracted fever and in five a mild febrile reaction.

A diagnosis of pleural effusion was made in four cases. Pleural effusion was found at autopsy in a pneumonia case. In the cases of the three patients who survived the fluid was aspirated and studied. In the case of one of the patients the presence of tularemia was obvious from the history and ulceroglandular lesions but in the cases of the two others the nature of the condition was not apparent. One of the two latter patients requested an agglutination test after two years during which he was thought to

have tuberculosis of the pleura and lung. The other was believed to have a tuberculous effusion until tularemia was proved by a routine agglutination test for an obscure condition of the chest. These patients presented the usual signs of pleural effusion characterized by high fever, a relative bradycardia and a normal leucocyte count. No acid fast organisms were found in the fluid and guinea pig inoculations were negative for both tuberculosis and tularemia. The bacillus tularensis was not recovered from the fluids, but the fluid agglutinated the organism in high dilutions.

In a high percentage of cases coming to autopsy, tularemia has been found to affect the thoracic viscera but this study demonstrates for the first time that pleuropulmonary infections are frequent in patients who recover from the disease.

The data relative to the individual tularemic infections and the respiratory symptoms, physical signs and roentgenological diagnosis in the thirty-five cases are presented in tables and a number of the cases are reported.

J. EDWIN KIRKPATRICK M.D.

Archer, V. W., Blackford, S. D. and Wissler, J. E. Pulmonary Manifestations in Human Tularemia. A Roentgenological Study. *J. Am. M. Ass.* 1935 104 893

Of thirty-five cases of tularemia reviewed a roentgen study of the chest was made in thirty-four. In none were chest roentgenograms made prior to the tularemic infection.

Pulmonary consolidation was found in seven cases. Tularemic pneumonia was described in ten of the fourteen complete routine autopsy reports quoted by Gundry and Warner. It appears to be primarily a bronchopneumonia with a lobular type of involvement which is often accompanied by areas of focal necrosis. In some cases there may be large areas of caseous consolidation in which cavitation may occur if secondary infection is present.

The findings of roentgen studies of tularemic pneumonia are in accord with the known pathological changes of the condition, but the diagnosis cannot be made on the basis of chest roentgenograms alone. A roentgen diagnosis of necrosis of the lung which was made in two of the cases reviewed by the authors was confirmed at autopsy. Three surviving patients showed roentgen evidence of infiltration without rarefaction. In subsequent studies of these patients one was found to have practically no residual change six weeks later, another, a thickening of the bronchial tree after five months, and the third a marked fibrosis after five years. In the case of a fourth surviving patient roentgenograms revealed definite pneumonia with what appeared to be central softening. Follow-up roentgenograms of this patient could not be obtained.

In seven active cases an uncomplicated increase in the peribronchial markings was noted in the roentgenograms. In the majority there was some haziness in addition to the thickening. This was

thought to represent an acute bronchitis or peribronchitis rather than a simple fibrosis.

In three cases, roentgen examination showed a pleural effusion, but the roentgenograms were of no assistance in identifying the tularemic nature of the effusions. The discovery of fluid in the pleural space has been recorded in the reports of three of fourteen autopsies performed in cases of tularemia. Tularemia is therefore to be considered a possible, though rare cause of pleural effusion.

Lesions of peribronchial and bronchial lymph nodes have been recorded in the reports of three of fourteen autopsies. The glandular enlargement may be independent of lesions in the lung. Evidence of involvement of the hilus glands seen in roentgenograms may be ascribed to the puerile type of tuberculosis. Lymphadenitis was found roentgenologically in one of the authors' series of cases.

The residual changes in the chest following tularemia in twenty-four cases in which recovery resulted consisted of peribronchial thickening alone in nine, peribronchial thickening with apparently an excess of calcium in eleven, apparently an excess of calcium alone in four, mediastinal enlargement of undetermined cause in one, and mediastinal enlargement within normal limits in two.

When no previous roentgenograms are available for comparison it is difficult to estimate an increase in calcium deposits and peribronchial thickening following tularemia. Other causes of pulmonary fibrosis and calcification, such as the reaction to tuberculosis, could not be excluded. However the data are sufficiently suggestive to indicate the need for further observations.

It has been demonstrated by roentgenograms that definite pulmonary changes are present in a high percentage of cases of tularemia. Every atypical chest condition occurring in tularemic territory should have the benefit of a diagnostic agglutination.

The article contains illustrative case histories and roentgenograms. J EDWIN KIRKPATRICK, M D

Fiorini, E: Attempts to Produce Bronchiectasis Experimentally (Tentativi di riproduzione sperimentale di bronchiectasie). *Polichin*, Rome, 1935, 42 sez chir 85

In view of the great diversity of opinion regarding the etiology and pathogenesis of bronchiectasis and the possibility that the condition may have multiple causes, Fiorini investigated experimentally the effect upon the bronchi of pleural adhesions and concurrent pulmonary sclerosis and retraction. Although the importance of pleural adhesions in the development of bronchiectasis has been estimated very diversely, it seemed logical to assume that if they acted at the same time at opposite points they might cause bronchial dilatation.

Extensive pleural adhesions were produced in twelve dogs by means of transpleural sutures. The operations were performed at intervals of one month at three sites: a curve between the parasternal and paravertebral lines at the level of the ninth thoracic

vertebra, the parasternal border of the lung, and the diaphragmatic surface. Marked sclerosis and retraction of the lung were produced by alcohol injections into the corresponding parenchymal area twelve days after each operation. After intervals of from four to eight months the animals were killed and the lungs studied macroscopically, microscopically, and roentgenologically.

In no case was there the slightest change in the caliber, form, position, or structure of the bronchi. In fact, the bronchi were the only structures which remained unaffected. The experiments therefore demonstrate that purely mechanical forces acting on the bronchi are insufficient to produce bronchiectasis in the absence of factors diminishing the resistance of the bronchial walls.

The article is accompanied by illustrations and a bibliography. M E MORSE, M.D.

O'Shaughnessy, L.: Surgery of the Lung Root. *Lancet*, 1935, 228 476

The author describes some of the less well known surgical procedures on the lung root, reviews the surgical anatomy of this region, and cites some of the dangers of operative interference.

Three methods of approach to the lung root are used: the transpleural, the anterior mediastinal, and the posterior mediastinal, depending upon the position of the root to be operated upon.

Since the development of the bronchoscope, operation on the bronchus is seldom performed for the removal of foreign bodies but is practicable in certain cases. In cases of obstruction of the lower air passages due to an inoperable tumor bronchotomy may be performed as a palliative measure. The author suggests bronchostomy on a main bronchus for the palliation of widespread suppurative disease of the lung. In cases of generalized infection this might be performed in two stages to insure the local formation of adhesions.

Operation on the pulmonary artery with ligation of the lobar branches has been done in cases of bronchiectasis. Ligation of this artery is followed, not by gangrene of the lung, but by a diffuse fibrosis. It is suggested that as ligation of a lobar artery is not satisfactory for the reduction of hemorrhage because of the rich anastomoses between the lobar branches, ligation of the pulmonary artery might be feasible.

Operation on the pulmonary veins with ligation of one or more of the vessels produces a venous stasis which is accompanied by only very slight systemic disturbances. In several cases it has been of aid in arresting tuberculous processes. The author suggests that this type of operation may be used when larger operations such as thoracoplasty and the other collapse methods are impractical.

Operations on the nerves of the lung root for bronchial asthma are to be considered only in cases believed to be of neurogenic origin and only after complete allergic tests have been made.

JAY EUGENE TREMAINE, M D

Monod R. and Demitrieau, J. The Technique of One Stage Lobectomy (Technique de la lobectomie en un temps) *J de chir* 1935 43 376

Iobectomy offers the only hope of cure in extensive bronchiectasis or localized bronchiectasis that does not respond to the usual treatment and in cases of old pulmonary abscesses. It may also cure cancer of the lung if the diagnosis is made early and may be applicable to well chosen cases of tuberculosis.

The technique used by the authors is similar to that of Brunn as modified by Shennstone and Archibald. It offers the advantages of rapidity with minimal shock and a better chance for expansion of the remaining lobes and a closed thoracic wall.

The operation is best performed on patients between twenty and thirty years of age whose cardiovascular system and blood pressure are normal. The patient should be carefully prepared. If expectoration is abundant postural drainage or bronchial irrigation should be done. The patient should be given good general care and exposed to the sunlight. Co-existing infections of the nose or throat should be cleared up. Vaccines may be beneficial.

Pre-operative pneumothorax offers many advantages but phrenicectomy is not advisable. The authors perform the operation under nitrous oxide anesthesia induced preferably by the intratracheal method.

They give complete directions with regard to the operative technique, the position of the patient, the assistants and the instruments. Numerous illustrations show in considerable detail the approach to the lung, the method of freeing and removing the lobe, the suturing of the pedicle and the closing of the chest wall. After the operation, before the patient leaves the operating table, aspiration of the trachea and bronchi is performed to remove all remaining purulent secretions.

The authors recommend postoperative transfusion of from 200 to 500 ccm of blood. Other treatment must be symptomatic and directed toward the prevention of heart failure, elevation of the temperature and restlessness.

Drainage continues from the chest for about three weeks and as a rule a bronchial fistula persists for two weeks. The fistula causes no harm but care must be taken to avoid injecting Dakin's solution into the chest.

Care is usually complete after about six weeks.

MARSH W. POOLE, M.D.

HEART AND PERICARDIUM

Cola G. Fluoroscopic Observations in Acute and Chronic Pericarditis (Osservazioni radiologiche nell' pericardite acuta e cronica) *Radiol med* 1935 22 125

The clinical diagnosis of pericarditis is although easy in some cases usually presents great difficulties which are often insurmountable by the ordinary methods of physical examination. While fluoroscopic examination is not always infallible it is at

least relatively reliable and can be carried out quickly.

In cases of dry or fibrinous pericarditis in which the pathognomonic pericardial friction is absent, fluoroscopy reveals a heart which is not enlarged, a decrease or disappearance of cardiac pulsations and a parietic or paralytic condition of the left half of the diaphragm.

In serofibrinous pericarditis it may reveal the early stage of a pericardial effusion. Holmes' maneuver in this stage shows a characteristic deformation of the left cardiac margin between the superior and middle arc. In a later stage as the effusion progresses the fluoroscopic picture becomes more characteristic. The heart assumes a globular outline. Its contour becomes markedly convex, the normal subdivision of its margins into arcs disappears and its transverse diameter becomes increased. The shadow of the superior vena cava appears enlarged. The cardiac pulsations are abolished and the diaphragm is either parietic or completely immobilized.

The cardiac movements may be studied by roentgen kymography or by gastric insufflation as suggested by Maragliaro.

In some cases the examination reveals a double contour at the right or the presence of a central adenoid nucleus (Blechmann) which is often overlooked but always exists in children as well as adults.

Holmes' maneuver by which the author attempts to demonstrate a broadening of the base and a reduction of the transverse diameter helps to differentiate a pericardial effusion from the enlarged heart of myocardiitis.

In the latter condition the heart assumes a triangular shape and presents rectilinear contours; the pulsations are weak and irregular but easily identified with the aid of the kymograph and Holmes' sign is absent.

Fluoroscopy is of particularly great value in cases of adherent pericardium.

In cases of simple synchysis a slight fixation of the heart and a systolic disturbance may be detected.

In cases with the presence of an involucrem surrounding the heart completely or partially the findings are still more characteristic. In addition to fixation of the heart they include a marked diastolic and systolic disturbance, an increase in the size of the heart and enlargement of the superior vena cava. The cardiac pulsations are barely visible or not visible at all; there is no shift of position of the apex during systole and the outline of the heart appears rigid and is not influenced by the respiratory movements.

In cases of fixation of the pericardium to neighboring parts the fluoroscopic picture is still more characteristic. The heart is small and shows irregular outlines; the superior vena cava is enlarged; the pulsations are either weakened or abolished; the diaphragmatic outline appears festooned and fixed and signs of mediastinal pleurisy are often noted. The pericardiac and retrocardiac spaces may be

reduced or appear opaque and do not clear up with the respiratory movements

Fluoroscopic examination permits also a study of Wenckebach's sign and the demonstration of variations in the diaphragmatic excursions and of diverticula of the esophagus due to traction

RICHARD E. SOMMA, M.D.

ESOPHAGUS AND MEDIASTINUM

Moersch, H. J., and Broders, A. C.: Adenoma of the Esophagus. *Arch Otolaryngol*, 1935, 21: 168

Benign tumors of the esophagus are of special interest because of their comparative rarity and because the majority of them are amenable to treatment. It is essential that they be recognized and distinguished from the malignant tumors, which are comparatively numerous and very resistant to all forms of therapy. Unfortunately, benign tumors lack distinctive clinical and roentgenoscopic features. The possibility of the presence of a benign tumor must be considered in all cases of dysphagia of unknown origin. Benign tumors can be accurately distinguished only by esophagoscopy and biopsy.

The benign neoplasms which may involve the esophagus are the adenoma, fibroma, hemangioma, leiomyoma, lipoma, lipomyoma, myoma, myxofibroma, and papilloma. Among the rarest of these is the adenoma. The esophagus may be involved also by aberrant thyroid tissue, cysts, and polyps.

The first adenoma of the esophagus was reported by Weigert in 1876. This tumor was discovered accidentally at postmortem examination. There had been no symptoms referable to the esophagus. Not long ago Hicquet and Jourdain reported a case in which the tumor was recognized and diagnosed clinically and the clinical diagnosis was confirmed by microscopic studies. Recently Moersch and Broders observed a case with roentgenoscopic and

microscopic findings very similar to those reported by Hicquet and Jourdain. Because of the rarity of the tumor, the case was reported in detail.

Sophian, L.: Mediastinal Ganglioneuroma. *Ann Surg.* 1935, 101: 827.

Sophian reports a case of ganglioneuroma of the right upper chest in which surgical removal of the neoplasm was followed by recovery. The patient was a girl seven and a half years old whose only complaints were a cough and fever persisting for eighteen months. The tumor was found to be extrapleural and encapsulated. It measured about 10 by 7 by 6 cm. Roentgenograms made two and a half years after its removal show no evidence of recurrence. The lung tissue completely fills the right apex.

In a review of the literature the author found reports of more than 100 cases of ganglioneuroma. Nearly one-half of the patients were under sixteen years of age and the greater number were females. As ganglioneuromas arise and develop along the cranial nerves and the sympathetic trunks (cervical, thoracic, and retroperitoneal), their anatomical relations depend upon the pre-existing structures in which they arise. The success of their operative removal depends upon their location, size, depth, and proximity to large vessels. In the neck the occurrence of paralysis of the cervical sympathetic nerve is to be expected because of the close connection of this nerve with the tumor.

While the great majority of ganglioneuromas appear to be completely benign and of slow growth, some of them have been undoubtedly malignant. Cases of multiple ganglioneuromas have been reported. There is a close gross and microscopic similarity between the benign ganglioneuroma and the neurogenic fibroma which has a marked tendency toward malignancy and recurrence.

JAY ELGENE TREMAINE, M.D.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Herzberg B. Operation for Crural Hernia by the Inguinal Route and Its Late Results (L'opera-zione dell'ernia crurale per via inguinale e i suoi risultati lontani) *Arch Ital di chir* 1935 39 91

The author reviews 265 cases of crural hernia operated on by the inguinal route at the Surgical Clinic of Leningrad. This method was introduced by Ruggi. Herzberg finds it an excellent method by which to obtain access to the peritoneal funnel, determine the contents of the hernial sac, and bring about firm closure of the crural ring and, in combined inguinal and crural hernia, firm closure of the inguinal canal.

The incision is made below and parallel with Poupart's ligament. The transverse fascia is then incised and the crural hernia brought into the inguinal canal. If necessary the hernial ring may be enlarged by incising Gimbernat's ligament.

The author's material shows that there is no danger of producing an inguinal hernia by this method. In cases of both inguinal and crural hernia and those in which the ring is large the described operation is the procedure of choice. It may be performed also in cases of strangulated hernia. In the latter liberation of the neck of the sac may be followed by section of Poupart's ligament which gives better access to the field of operation by enlarging the inguinal canal laterally. Section and suture of the ligament does not reduce the solidity of the abdominal wall.

The late results in 151 cases show that the operation described is one of the most effective methods for the treatment of crural hernia.

ALFRED GOSS MORGAN M.D.

Küntz E. A Case of Incarcerated Obturator Hernia Cured by Operation (Operierter und geheilter Fall von Hernia obturatoria incarcerata) *Orthoped* 1934 24 113

The clinical importance of obturator hernia is due to incarceration, the characteristic symptom of which is ileus associated with the Howship-Romberg sign. Diagnosis of the uncomplicated hernia is seldom possible. The author reports a case to show the difficulties in diagnosis and operation.

His patient was a woman sixty-two years old who complained of severe cramp-like pain in the lower part of the abdomen of four days' duration. Meteorism was found. There was no evacuation of feces or flatus. Vomiting occurred and the vomitus became foul-smelling. The hernial orifices were free. On being moved the patient complained of severe pain in the left thigh. On the medial side, corresponding to the position of the adductors and the pectineus

muscle, there was a painful area the size of the palm of the hand over which the muscles were tense and tender. There was moderate flexion contracture of the hip joint. A diagnosis of left incarcerated obturator hernia was made. Operation was performed through the thigh. An attempt at blunt enlargement of the hernial orifice and reposition was unsuccessful. Laparotomy was therefore performed. The os pubis was sawed through with a Gigli saw and the divided bone was spread whereupon the incarcerated bowel loops were easily drawn back into the peritoneal cavity. The necrotic loops were resected. Recovery was complete after forty days.

The author believes that in every case of ileus of unknown origin, especially in thin women, the possibility of an incarcerated obturator hernia should be kept in mind. In cases with a doubtful diagnosis it seems advisable to begin the operation by laparotomy. Resection of the pubic bone is easily and simply done and protects best against accidental injuries. The prognosis is less hopeless than Wilms assumes. The case reported is the fourth which did not terminate fatally. Unquestionably the prognosis depends upon the duration of the ileus and the stage of the clinical manifestations.

(E. L. S.) LEO M. ZIEGLERMAN M.D.

Trusler H. M., Reeves J. R. and Martin H. E. The Significance of Anaerobic Organisms in Peritonitis Due to Liver Autolysis. A Bacteriological Study of the Peritoneal Exudates. *Arch Surg* 1935 30 371

The authors first cite previous experiments reported by them which showed that clostridium welchii is not a normal inhabitant of dog liver or dog muscle.

In experiments to determine the significance of anaerobic organisms in peritonitis due to liver autolysis they found that when pieces of liver removed aseptically from one dog were introduced with the usual precautions for asepsis into the peritoneal cavity of another dog, death resulted in a few hours and the peritoneal exudate contained not only the liver organism but other anaerobes normally found in dog muscle. They therefore concluded that they were probably contaminating the pieces of liver while placing them in the peritoneal cavity. As such contamination might occur also when pieces of autoclaved liver were introduced into the peritoneal cavity, the only logical method for introduction of the autoclaved liver seemed to be by injection. Accordingly the liver was ground fine enough to be injected through a 25 gauge needle.

In experiments on two dogs in which the injection was made through a needle thrust into the peritoneal cavity through the midline, death occurred

within fifteen hours. In two other dogs a slit was cauterized well through the skin, fascia, and muscle, down to the peritoneum in the midline of the abdomen and the injection made through a needle introduced through the slit into the peritoneal cavity. These dogs did not die and did not develop peritonitis. In experiments on another series of dogs aspiration of the peritoneal exudate at intervals after the injection showed that when autoclaved liver was injected intraperitoneally in an uncontaminated state it remained sterile until it was absorbed and did not cause death.

In experiments in which incubated liver was similarly used death always occurred usually within a few hours after the injection. All of the smears and cultures of the peritoneal exudate removed from these dogs were sterile. The incubated liver seemed to contain some highly toxic factor which was fatal. A careful technique was devised for the withdrawal of peritoneal exudate without contamination of the peritoneal cavity.

In another series of experiments the injection of a 10 per cent solution of the two bile salts caused death within a few hours. Death was not due to bacterial growth in the peritoneal cavity.

As the various incubated preparations of liver and the sterile bile salts caused an intense irritation of the peritoneal surfaces with much extravasation of blood and fluids, the authors believe that death was due to shock.

EARL GARSIDE, M.D.

Breitmann, M. G.: The Problem of Draining the Abdominal Cavity in Cases of General Peritonitis. *Ann. Surg.*, 1935, 101: 662

The problem of draining the abdominal cavity in cases of general peritonitis is still unsettled. According to the rules, the treatment of such cases requires (1) removal of the source of infection, (2) removal of the infected exudate and prevention of its further formation, and (3) restoration of the normal conditions of circulation.

The inflammatory nidus must be removed by resection, extirpation, extraperitonealization, or attaching the unsafely closed or isolated organ to the peritoneum. Restoration of normal conditions of circulation is best accomplished by complete closure of the abdominal wound.

With regard to the removal of the exudate from the abdominal cavity surgeons disagree. Some believe that the peritoneal exudate is the sole means of defense possessed by the abdominal cavity, that the antibodies are removed with the exudate. However, the majority are of the opinion that when the exudate becomes very purulent and contains intestinal matter, necrotic tissue, or some other foreign material it does more harm than good and should be removed at the time of operation.

One of the strongest arguments against drainage of the abdominal cavity for the removal of exudate that is not removed at the time of operation is based on the fact that all drains are completely walled off from the rest of the abdomen within from ten to

twelve hours. The author believes that when drainage is required it can be accomplished best by inserting a drain between the anterior abdominal wall and the omentum where it will not be in contact with the intestines. He reports the use of such a drain in six cases with good results. The drain did not become plugged but acted as a wick.

SAMUEL PERLOW, M.D.

Runco, A.: The Mesenterium Commune (Sul mesenterium commune). *Radiol. med.*, 1935, 22: 147

In discussing the condition known as mesenterium commune, Runco reviews the most important theories regarding the genesis of the faulty development of the embryonic umbilical loop. From a study of his cases he concludes that this condition is due essentially to arrest of development of the intestine at about the tenth week, before the umbilical loop has begun to rotate around the axis formed by the superior mesenteric artery. The result of such failure of rotation is a persistent mesenterium commune.

A persistent mesenterium commune may pursue an asymptomatic course for a long time, but sooner or later gastro-intestinal disturbances are apt to develop.

It is often impossible to demonstrate organic changes to confirm the clinical diagnosis. As a rule the patient's complaints suggest a functional rather than an organic disturbance. The disturbances resemble the dyspeptic disturbances associated with marked vagal hypertonia.

The frequent association of mesenterium commune with an organic lesion suggests a relation between the two in the sense that the mesenterium commune represents an area of diminished resistance which favors the development of organic lesions.

Complications due essentially to hypermobility of the intestine are rare, but are apt to be serious. It is therefore important to keep the patient informed in order that he may receive prompt prophylactic treatment.

As the clinical manifestations are complex and never constant, clinical diagnosis is difficult, if not impossible. The disorder is usually confused with other conditions which occur much more frequently. The diagnosis therefore requires a very careful roentgen examination of the entire gastro-intestinal tract. This should be made with a barium meal and enema and with the patient in the upright, recumbent, and possibly the Trendelenburg position in order that any organic lesion, stenosis, or occlusion may be promptly detected. If necessary, the examination should be repeated and extended to include the urinary and biliary passages.

RICHARD E. SOMMA, M.D.

Milone, S., and Picco, A.: The Pathogenesis of Fibrous Retractable Mesenteritis (Sulla patogenesi della mesenterite fibrosa retrattile). *Arch. ital. di chir.*, 1935, 39: 117

Fibrous retractile mesenteritis was first described in 1853, by Virchow, who called it "mesenteric cir-

rhosis.' The various forms of the condition are now well known, but its etiology and pathogenesis are still undetermined.

The causes to which the disease has been attributed include ulcerative inflammatory processes arising in the intestine, suppurative processes in nearby organs, congenital defects and malformations in rotation and fascia formation, inflammatory processes during fetal life, violent traumas, mild repeated traumas, arteriosclerosis, alcoholic intoxication, tuberculosis, syphilis, neoplasms, and worm infestations. The authors believe that the most important factor is trauma. They review the literature and the experimental work which support this theory.

In a series of experiments carried out by the authors on rabbits ligatures were placed about the principal lymphatic trunks with care to avoid injuring the blood vessels. In this manner the lymphatic drainage of from 15 to 20 cm. of the intestine was blocked. After varying periods the animals were killed and examined. From their findings the authors conclude that the change produced by the blocking of the lymphatics passed through three stages. In the first stage there was a diffuse edema of the mesentery with mobilization of the migratory elements especially the histocytes from the connective tissue. In the second stage hyperplasia of the connective tissue resulted from new fibroblastic proliferation which at first was nodular and then fundamentally circumcribed in bundles and cords with orientation chiefly perpendicular to the direction of the vessels. In the third stage there was sclerosis of the newly formed connective tissue bundles and cords with gradual replacement by collagen fibers and eventually retraction of the mesentery.

The authors suggest also that the changes noted may have been associated with secondary infection by a greatly attenuated organism which was able to enter this terrain through the intestinal wall because of changes produced in the latter by the lymph stasis. However, as such organisms could not be demonstrated it is possible that only toxins were active.

A. LOUIS ROSE, M.D.

Mead C. H. Mesenteric Lymphadenitis Simulating Acute Appendicitis. A Quantitative Study of the Size of Normal Mesenteric Lymph Nodes. *Arch Surg* 1935 30: 49.

Mead gives a comprehensive review of the literature on tuberculous and non tuberculous mesenteric lymphadenitis and reports 2 illustrative cases. As this condition is frequently discovered and diagnosed only at operation or autopsy, Mead sought to determine aids to its diagnosis. The outstanding facts which he recognized from reports of cases in the literature were that in many of the recorded cases the size of the glands was within normal limits and the symptoms were caused by other factors. As there are as yet no certain measures of the normal variation of the mesenteric glands, Mead sought to establish this fundamental factor.

The material studied consisted of the mesenteries obtained at autopsy from 50 children aged from four and one half months prematurely to twelve years. The specimens were fixed in formalin and the individual lymph nodes dissected free later. It was found that the nodes returned to their original weight after two and one half months in the fixing solution. Determinations of the weights were made after this period of time.

Six thousand and eight mesenteric lymph nodes obtained from the 50 mesenteries were examined. The number of nodes ranged from 26 in a seven month premature infant to 289 in a full term still born infant. The total amount of lymphoid tissue present in each mesentery ranged from 0.0398 to 18.654 gm. The smallest node found weighed 0.0001 gm and the largest 1.78 gm. There was an apparent steady increase in the total weight of the lymphoid tissue of the mesenteries from birth to the twelfth year of age. The smallest lymph nodes were located near the intestinal margin of the mesentery and the largest in the mesenteric root. Visual differentiation is accurate as the apparent size of a node is fairly indicative of its weight.

FRED GARLAND, M.D.

GASTRO INTESTINAL TRACT

Friedemann M. The Controversy Over the Pylorus. Also a Contribution on the Subject of Hydrochloric Acid and Gastric Ulcer. (*Der Streit um den Pylorner Zugleich ein Beitrag zum Thema Salzsäure und Magengeschwüre*). *Zentralbl f. Chir* 1934 p. 2658.

The author denies that he always objects to resection for exclusion without removal of the pylorus or always insists on removal of the pylorus. According to his experience there is a considerable difference in the results not only of resection with removal of the ulcer but also of resection for exclusion whether the pylorus is removed or not. He reports briefly the cases of 12 patients subjected to resection for exclusion without removal of the pylorus. In 3 of these cases the primary operation was performed elsewhere. Three of the patients died. Of the 9 patients who survived the ulcer recurred in 4 (44.4 per cent) although in the cases of 3 of the latter the primary resection performed by Finsterer's method was quite extensive. Three of the 4 patients with recurrence were permanently cured by a second operation in which the pylorus was removed. Of 6 cases in which the author performed a resection for exclusion without removing the pylorus a recurrence developed in 1. In the cases in which resection for exclusion with removal of the pylorus was done in the author's clinic or elsewhere there were no recurrences.

On the basis of these results it appears advisable to attempt to remove the pylorus in every case. Of 160 of the author's patients who were re-examined after a Billroth I or Billroth II resection a recurrent ulcer was found in 10 (13 per cent), whereas in cases in which a more extensive gastric resection was done

the incidence of recurrence was only 0.5 per cent. When removal of the pylorus will render the operation dangerous it should not be attempted. Under such conditions resection for exclusion without removal of the pylorus or gastro-enterostomy is the procedure of choice.

To determine the relationship of hydrochloric acid to gastric and duodenal ulcer the author carried out investigations in the cases of 600 patients in whom a gastric or duodenal ulcer was later proved by operation. Free hydrochloric acid was absent or below normal in 58 per cent and normal or above normal in 94.2 per cent. A distinct difference was found between cases of duodenal and gastric ulcer, that is, between cases of ulcer situated near the pylorus and cases of ulcer situated at a distance from the pylorus since in the former the average acidity was higher than in the latter. From this observation it might be concluded that an ulcer in the region of the pyloric glands exerts a more marked stimulating effect on the chemical phase of acid formation than an ulcer situated elsewhere. According to this assumption an ulcer situated near the pylorus would be the cause of the high acidity, whereas it is generally believed that the higher the acidity the more easily an ulcer is formed. However, the hydrochloric acid content and the digestive activity of the gastric juice are by no means the only factors to be considered responsible for the formation of an ulcer. The ulcer problem is much too complex to be solved by studies of hydrochloric acid secretion alone.

Of 182 patients with recurrent ulcer proved by a secondary operation, the gastric juice of 99 was studied by the author for a shorter or longer period of time before the second operation. The hydrochloric acid was found increased above normal in 39 and normal in 51. It was therefore above normal or normal in a total of 90 cases. It was decreased or absent in only 9. In cases in which free hydrochloric acid was absent the author never found an ulcer even when a diagnosis of ulcer was made by the roentgenologist.

Of all the factors of importance in the causation of ulcer, acid formation is still most easily corrected. Its correction is accomplished, not by diet or medical treatment, but by extensive resection of the stomach with removal of the pylorus. An extensive resection in which the pylorus is not removed is just as unreliable for this purpose as a small resection. After resection with preservation of the pylorus the incidence of recurrent ulcer is greater than after the so-called extensive radical operations. The latter fail to protect against recurrence when they do not limit the secretion of acid sufficiently. In cases treated by resection for exclusion without removal of the pylorus and in those treated by gastro-enterostomy the possibility of recurrence is always present, but recurrence is apparently less frequent after the former operation than after the latter. However, gastro-enterostomy is a less severe operation which can be performed on debilitated patients.

(BODE) SAMUEL J. FOGELSON, M.D.

Benedict, E. B.: Chronic Gastritis. A Clinical Discussion Based on Gastroscopic Examination. *New England J. Med.*, 1935, 212: 468.

The term "chronic gastritis" has been used to designate a variety of gastric disorders in many of which there are no actual changes in the mucous membrane. Chronic gastritis with organic changes is a comparatively rare primary disease. The development of the Wolf-Schindler flexible gastroscope has now placed at our disposal an easy and positive means for making an accurate diagnosis of gastritis.

The cause of chronic gastritis is not definitely known. Dietary indiscretions, rapid and irregular eating, improper mastication, and the excessive use of tobacco and alcohol are undoubtedly of importance. Chemical and bacterial factors and psychogenic instability may also play a part.

Chronic gastritis presents both gross and microscopic pathological changes. The gross changes consist of edema and reddening of the mucosa, excessive secretion of mucus, hypertrophy of the rugae, granular, verrucous, or polypoid irregularity of the mucosa, areas of submucous hemorrhage, and mucous membrane hemorrhages with or without visible erosions. Some types of gastritis show a thin atrophic mucosa. Microscopic examination may reveal round-cell infiltration, glandular atrophy, goblet-cell metaplasia, cystic enlargement of gland remnants, and proliferative changes in the mucosa. Variation in the amount of connective tissue proliferation in different areas leads to thickening or thinning of the mucosa.

The symptoms are vague and usually simulate those of peptic ulcer. Hematemesis and melena are not uncommon. Gastric analysis shows hypo-acidity in most cases, but normal acidity and hyperacidity are frequent.

With the flexible gastroscope it is now possible to inspect the gastric mucosa and note the variations from the normal. The latter may consist of hypertrophic, verrucous, erosive, or atrophic changes. As the different types may occur in varying degrees in the same stomach, a definite classification of chronic gastritis according to these findings is not possible in all cases. The predominant characteristic may be hypertrophy or atrophy with or without erosions. The color and character of the mucosa are of great importance. In chronic inflammation the mucosa is redder than normal. Frequently it presents a very glistening appearance. Glairy, tenacious mucus may be prominent on the surface. The rugae may be enlarged and tortuous and their crests may be reddened. Often the mucosa between the folds presents a granular or warty appearance. The atrophic changes in the mucosa are always easily recognized as the normal folds are partly or completely flattened out. Erosions may occur with either atrophic or hypertrophic changes. They are small surface defects in the mucous membrane which may or may not be actively bleeding at the time of observation.

The prognosis of chronic gastritis must be guarded. There are likely to be remissions and relapses although many patients are clinically entirely relieved after a short period of treatment. In general, minor surface changes in the mucosa such as erosion and small areas of hemorrhage and hyperemia will heal completely but hypertrophic forms such as granulations, verrucous humps and pseudo-polyps may remain refractory. When profuse atrophy of the mucous membrane has occurred there is probably little chance of regeneration. However in a series of cases with pernicious anemia which are reviewed by the author improvement in the gastroscopic picture was noted after intensive liver therapy.

SAMUEL J. FOLEYSON M.D.

Buechner F. Peptic Gastritis. (*Ueber peptische Gastritis*) *Deutsche med. Wchnst.* 1934 11: 1460.

The investigations of Moszkowicz, Konjetzny, and Puhl have led to a theoretical solution of the problem of peptic gastritis. This condition is characterized by erosions of the gastric mucous membrane from which a fibrinous leucocytic exudate. According to Konjetzny and Puhl the gastric juice is not a factor in its development. However from the experiments carried out with hydrochloric acid and alcohol by Gottschick on cats it appears evident that the findings of Konjetzny and Puhl may be interpreted differently. Like Hamperl, Buechner has found in the stomachs of fresh cadavers and in resection specimens very small necroses of the mucosa invisible to the naked eye which very evidently were formed during life as they were of a fibrinoid character. These necroses could not have been ischemic as the epithelium and mesenchyme were equally involved and in a chemie lesions only the epithelium is necrotic. They resembled the necroses produced by the erosion of mineral acids in weak concentration and apparently were caused by the hydrochloric acid of the stomach. Konjetzny and Puhl failed to find them in their specimens because in every case in which gastric surgery is contemplated the operation is preceded by treatment which prevents the development. However, Buechner has now found these early changes in two resection specimens and Hamperl has observed them in one. As a rule they disappear in from twenty-four to thirty-six hours. The theory that they constitute morphological evidence of the presence of a peptic gastroduodenitis is supported by the findings in peptic esophagitis.

The investigations of Puhl and Overgaard have shown that in the empty stomach of the dog hydrochloric acid in physiological concentration may cause an acute gastritis. The question therefore arises whether under certain circumstances the mixture of gastric secretions may not also have this effect. The histamin experiments carried out by Buechner, Siebert and Molloy in which erosions and ulcers were found in the stomach after the subcutaneous injection of histamin during the fasting state were conclusive only for rats. The claim of

Henning and Norpeth that these lesions were only accidental findings and the claim of Eppinger and Leuchtenberger that they were due to direct action of the histamin on the blood vessels and not to an increase in the secretion of gastric juice produced by the histamin are denied by Buechner as the same effects produced by the gastric juice in the empty stomach under the influence of histamin were observed by Puhl and Brodersen, Overgaard, and Maduena in rabbits and guinea pigs. A severe peptic gastroduodenitis may be caused also by other substances which increase the secretion of gastric juice (Hanke's experiments) and by nervous reflexes (Silbermann's sham feeding experiments). Buechner does not accept the theory of Westphal that vasomotor disturbances are factors in peptic erosion. In conclusion he says that the rôle of the secretion of the empty stomach which is apparently the most important factor remains to be determined. (FRANZ) SAMUEL J. FOLEYSON M.D.

Ogilvie, W. H. Some Points in the Operation of Gastrectomy. *Brit. M. J.* 1933, 1: 451.

The various short circuiting operations including gastro-enterostomy are radically condemned. Failure of gastro-enterostomy are common. Gastro-jejunostomy must be abandoned for although like some of the amputations of the foot it will continue to be performed as a technical exercise in operative surgery classes and a useful expedient in the occasional case it cannot remain in the group of rational and successful operations. However if it is to be replaced by gastrectomy in the treatment of ulcer gastrectomy must be equally safe and far more satisfactory.

The purpose of this article is to analyze the dangers and functional failures of gastrectomy and to suggest measures by which they may be avoided.

Deaths following gastrectomy are usually due to shock, hemorrhage, peritonitis or postoperative pulmonary complications. Surgical shock is due to prolonged handling, protracted anesthesia and loss of blood. It may be combated by more adequate exposure of the upper part of the stomach and the first part of the duodenum, a better understanding of the anatomical planes dissected, and diminution of the number of bleeding vessels to be tied by reduction of the length of the cut surfaces to be approximated by suture. The most important requisite is simplification of the operation.

The functional failures of gastrectomy may be classified into three main groups: (1) recurrent ulceration, (2) postoperative discomfort and (3) anemia. As the dangers, difficulties and failures are closely related the author discusses them together to avoid repetition.

With the possible exception of nitrous oxide all anesthetics are to a varying degree tissue poisons which administered in sufficient concentration for a sufficient time may alone cause shock and in combination with prolonged tissue handling are certain to have such an effect. It is therefore desirable to

avoid general anesthesia. Spinal anesthesia at the level of the diaphragm is uncertain and has too profound an effect on the blood pressure to be safe. There remains therefore only local anesthesia, either alone or in combination with the use of nitrous oxide and oxygen. Following proper premedication and splanchnic infiltration, pain is entirely abolished, relaxation of the abdominal walls is complete, respiratory movements are slow and shallow, the blood pressure is not elevated, and the capillaries are not dilated. By splanchnic infiltration the technical phase of the surgery is so remarkably simplified that any surgeon is able to save the twenty minutes required for the injection of the anesthetic. In the postoperative stage following local anesthesia the patient is able to take fluids by mouth immediately.

Access is most difficult and accuracy most essential for high gastrectomy in the neighborhood of the left gastric artery, at the cardiac end of the lesser curvature, and at the duodenum. A median incision is recommended. There never is any necessity to go below the umbilicus, but the incision may be prolonged upward to the level of the xiphisternum and may there extend 2 in. above the perimedial approach.

On the basis of the embryological development of the great omentum and the absence of anastomoses between the omental blood vessels and the colon, the author recommends that the omentum and colon be separated by running a knife along the bloodless plane between them which is close to the colon. This opens the old plane of adhesions and renders it easy to separate down to the posterior abdominal wall, restoring the fetal condition. When this is done correctly, ligatures are required only at both ends of the gastro-epiploic arch, i.e., one at the origin of the right vessel from the gastroduodenal artery and the other near the spleen. For preservation of an adequate circulation for the omentum the omentum should be separated proximal (gastral) to the gastro-epiploic arch. The common technique of gastrectomy in which the vessels of the omentum are tied 2 in. from the gastric curvature is anatomically wrong and technically a waste of time. It is wrong because division of these vessels cuts off the entire omental blood supply, rendering the omentum a bloodless fat graft destined to become fibrous and promote adhesions.

Ogilvie has simplified his technique of gastrectomy by avoiding the duodenum which is one of the chief hazards of abdominal surgery. He states that the duodenum has many dangers peculiar to itself. It has a large, thick, and pliable muscular wall which is difficult to suture and infold. It has a very abundant supply of blood vessels, the most troublesome of which are those from the pancreas. Ogilvie has found that after the duodenum is separated from the pancreas for about $\frac{3}{4}$ in. a simple pursestring suture is safe without the row of infolding sutures usually recommended. He crushes the duodenum at the point selected for division, ties it firmly with a silk ligature in the crushed groove, introduces a

pursestring suture from III to IX on the pancreatic side and from III to IX laterally, and then ties over this pursestring suture a second pursestring suture which includes the cut tip of the peritoneum on the head of the pancreas.

He states that if access of acid gastric juice is entirely and permanently prevented by division of the pyloric end of the stomach, a duodenal ulcer will heal and remain healed. Transverse division of the stomach 2 in. proximal to the pylorus is therefore quite as efficacious in gastrectomy for ulcer as the usual duodenal occlusion. In both resection for cancer and resection for ulcer the removal of the stomach must be thorough. At least three-fourths of the stomach must be resected. In this resection the left gastric or coronary artery should be ligated. The right gastric or pyloric artery may be ignored as a textbook mythical structure. Ogilvie prefers Finsterer's modification of the Polya resection. In this procedure the opening in the gastric fragment remaining after resection is closed, beginning at the lesser curvature, by 2 or more rows of sutures so that the infolded line extends nearly to the cardia. The jejunum is anastomosed to the remaining half of the opening, the distal loop is anastomosed to the greater curvature, and the proximal jejunum is later sutured to the closed part of the stomach. In this manner the suture line is re-inforced and a thick valve of gastric and jejunal wall is interposed between the gastric outlet and the proximal loop. Regurgitation into the duodenum is therefore effectively controlled.

The common causes of failure of gastrectomy—postoperative vomiting, postprandial discomfort, and proximal loop distention—have already been combated by the described Finsterer gastrectomy. Recurrent ulcers can develop only if the postoperative acid level remains high, as may be the case when the resection has been too conservative.

Recent study suggests that the anemia following gastrectomy has no relation to the amount of stomach resected but is dependent upon the functional disturbance produced by the operation. An equally severe anemia may follow gastro-enterostomy. In the absence of gastro-intestinal disturbances, the anemia associated with gastrectomy responds readily to the administration of iron and ammonium citrate by mouth.

In 140 patients followed by Ogilvie after gastrectomy no change was found in the blood picture.

SAMUEL J. FOGELSON, M.D.

Kirshbaum, J. D.. Submucous Lipomas of the Intestinal Tract as a Cause of Intestinal Obstruction. *Ann Surg*, 1935, 101: 734.

Kirshbaum states that lipomas of the gastro-intestinal tract are usually an incidental finding at autopsy or operation. Occasionally, however, they are the cause of acute or chronic intestinal obstruction. The submucous type is more common than the subserous. In a series of 5,754 consecutive autopsies performed at the Cook County Hospital, Chicago, since 1929, 9 lipomas of the gastro-intes-

tinal tract were found. Only 1 was in the stomach. Three were in the jejunum, 3 in the ileum and 2 in the colon. Eight were situated in the submucosa. In 2 cases the tumor caused intestinal obstruction. In 1 of these it became sequestered, mobilized and lodged in the lower ileum where it occluded the lumen. In the other it caused intussusception of the distal 8 in of the ileum into the cæcum. In both cases death resulted and autopsy disclosed diffuse peritonitis.

Lipomas were the second most frequent type of benign tumors of the gastrointestinal tract encountered in the 574 autopsies. The diagnosis of submucous lipoma of the intestine is practically never made during life. **JOHN W. NELSON, M.D.**

Mandl, F. Further Experiences with Radical Operation for Carcinoma of the Rectum. (Weitere Erfahrungen zur Totaloperation des Rectumcarcinoms.) *Zentralbl. f. Chir.* 1934 p. 2046.

Mandl, who in 1929 reported on 1,000 cases of sacral operation for carcinoma of the rectum from von Hochenegg's Clinic, presents in this article an exhaustive review of the 135 operations he performed in the period from 1920 to 1933. Of the latter, 54 were strictly sacral operations, 32 were extended sacral operations by the method of Goetze and Mandl, and 49 were abdominosacral operations, and the rest were other operative procedures. The first group were followed by 6 postoperative deaths, the second by 2 and the third by 4. Radical sacral methods which continue to be the preferred procedures have a mortality of less than 10 per cent. A radical operation could be performed in 80 per cent of the author's cases. There are 4 possible types of sacral operation.

One type is the extended sacral operation proposed by Mandl and Goetze. If sufficient bowel cannot be removed to permit the drawing through procedure, the operation is completed by a sacral anus with preservation of the sphincter if possible.

In cases of high lying tumor, opening of the peritoneum from above downward may be difficult. If it cannot be done, the bowel must be divided below the tumor between 2 clamps and the peritoneum opened from below upward.

Sometimes it is impossible to free the posterior fascia because the tumor is fixed posteriorly. The tumor must then be freed from the side and the cul de sac opened from below.

The old sacral operation consists of division of the dorsal tissues at one level. The horizontally arranged tissues are not removed and the superior hemorrhoidal artery is ligated relatively late. This method is not radical, but Mandl and others were able to report very good results from it up to 1919.

The article contains a series of photographs of specimens removed by the sacral route. They show that as much of the bowel may be removed by this method as by the combined operation.

Electrocoagulation was used by Mandl in 10 cases of dorsal rectotomy. Preliminary colostomy did not appear to be essential. Rectotomy protects the

patient from the threatened ileus, but permanent results can scarcely be expected from it.

Mandl favors very active treatment of recurrences and metastases since unexpected results may be attained thereby. He states that stenoses about the sacral anus are frequently mistaken by the practitioner for local recurrences. Dilatation is best carried out by means of laminaria tents.

For preservation of the anus, the drawing through procedure of Hochenegg is doubtless best. Some times the so called secondary drawing through operation is successful. This is done by dividing the sphincter in one plane and entirely freeing it from its mucosa. The operation is performed under spinal anesthesia. If preliminary colostomy is necessary it is done at the transverse colon instead of the cecum. The patient is placed on his side. No satisfactory results were obtained by the author with any form of irradiation.

(A. W. FISCHER.) **LEO M. ZIMMERMAN, M.D.**

LIVER, GALL, BLADDER, PANCREAS AND SPLEEN

Caroli, J. and Benoit, H. So Called Medical Icterus and Its Surgical Treatment. A Study of Its Clinical Aspects, Pathogenesis and Therapy. (Les ictères dits médicaux et leur traitement chirurgical. Etude clinique pathogénique et thérapeutique.) *Rev. de chir. Par.* 1935 34 27.

Surgery of the biliary tract has not followed the progress of ideas relative to the medical forms of icterus. Originally so called catarrhal jaundice, when excessively chronic, seemed to demand surgical drainage as the cause of the icterus was supposed to be a mucus plug (Virchow) or ascending cholangitis (Gilbert). At that time, however, surgery of the bile passages was not well developed and later because of a change in the conception of the pathology, surgeons were deterred from treating what appeared to be a purely medical condition.

It is now known that catarrhal jaundice is a manifestation of hepatic necrosis, an acute yellow atrophy in miniature. Theoretically surgery would be useless if not dangerous in the treatment of such a lesion. However, in the course of years a number of patients with catarrhal jaundice have been operated upon by error and instead of being disastrous the operations had beneficial results. The first observations of this kind were regarded as coincidences but as the number multiplied certain surgeons began to recognize a relation of cause and effect. From 100 collected cases, 4 and 5 of their own, the authors conclude that there are well defined indications for the surgical treatment of catarrhal jaundice.

The first operation for acute yellow atrophy was reported in 1910 by Umber. In 1920 Huber and Kauch reported 3 cases of the condition treated surgically and in 1922 Brown reported 2. Brown was the first to point out the value of surgery in hepatic degenerations. The theory that dyskinesia of the bile passages may play an etiologic rôle was first advanced in 1915 by Rost.

In the etiology of medical icterus age and sex are of no importance. The chief factor is apparently geographical. Icterus is particularly frequent in Germany, especially in the Rhineland. The immediately exciting causes are obscure except in a few cases in which the condition is attributable to typhoid fever, syphilis, salvarsan, food poisoning, or pregnancy. Occasionally the icterus is epidemic.

In certain cases of liver necrosis there is fever with pain and an increase in the size of the liver. These symptoms have sometimes led to operation for supposed cholelithiasis or cholecystitis. In some of the cases reported there was marked cachexia.

In the course of operations much information has been obtained regarding the lesions underlying the medical forms of icterus. The descriptions of the gross findings vary and on the whole are rather incomplete. The liver may be large or small. It is frequently nodular. Microscopically, the lesions are essentially the same regardless of the anatomical condition of the bile passages. In 31 of 45 biopsies the diagnosis was acute atrophy. The degree of involvement was variable, but the central portions of the lobules were particularly affected. The portal areas were always heavily infiltrated by lymphocytes, and portal cirrhosis was present.

In about half of the cases the bile passages were dilated in some segment or throughout their course. Although organic obstruction was absent, lipiodol injected through the biliary fistula after drainage was sometimes arrested at the ampulla. There was no evidence of compression by the pancreas. Spasm of the sphincter of Oddi seemed to be the simplest explanation of this phenomenon.

In some cases in which the bile passages were not dilated a general narrowing was demonstrated either by the passage of sounds or the use of lipiodol. By the latter, Berard and Mallet-Guy demonstrated narrowing of the common duct and absence of peristalsis.

In the pancreas, changes were rare and of slight degree (induration).

Drainage was always followed by cessation of the hepatic pain and fever, rapid clearing up of the icterus, and improvement of the general condition. As far as can be determined, the cures were permanent.

The manner in which operation benefits the patient when the bile passages are normal and especially when intervention is limited to simple exploration of the abdomen remains unexplained. Various hypotheses have been advanced. The authors believe that in such cases the icterus is due to a functional disturbance of the bile passages affecting motility.

The indications for operation are persistence of the icterus for four months or more, pain, and fever. The operation of choice is usually cholecystostomy.

The duration of the drainage is determined by the character of the bile and the clinical progress of the patient. The bile often contains large quantities of

mucus. The drainage should be continued until the bile has assumed its normal character. The injection of lipiodol through the fistula furnishes information of importance regarding the condition of the bile passages and aids in the proper choice of treatment for persistent stasis. ALBERT F. DE GROAT, M.D.

Denk, W.: Results of Surgical Treatment of Chronic Icterus (Erfolge der chirurgischen Behandlung des chronischen Ikterus). *Wien klin. Wochenschr.*, 1934, 2: 1153.

Statistics on the results of surgical treatment of chronic icterus are limited. The general practitioner regards the prognosis of operation in this condition as very unfavorable. This attitude is not correct. The dreaded cholemic hemorrhages can be effectively prevented or controlled by blood transfusion (Domag's reports). Delay of blood coagulation may be combated by the intravenous injection of afeñil or 5 c cm. of a 10 per cent solution of calcium chloride on three successive days. The findings of liver function tests are not entirely reliable indications of the postoperative course to be expected. It is certain that the latter cannot be predetermined from either the intensity or the duration of the icterus. However, it is important to avoid chloroform and avertin narcosis and to employ ether only in emergency. Operation is best performed under local, splanchnic, or nitrous oxide anesthesia. The gall bladder should not be removed, at the most, cholecystostomy may be performed for the removal of stones. A diagonal choledochotomy should be done. When stones cannot be palpated a roentgenogram should be made on a sterile film introduced behind the mobilized duodenum. Forceful sounding of the papilla should be avoided. Inability to pass the sound may be due to catching of the sound in the mucous membrane, spastic occlusion of the sphincter of Oddi, or cicatricial changes. The duodenum must be opened and the papilla examined and possibly split. External drainage of the common duct is not necessary, but drainage should be established in the operative area with a thin tube and wicks.

In a total of sixty-one operations there were eight deaths—five due to hepatic insufficiency, one to pneumonia, one to anuria, and one to pancreatitis. In sixteen cases in which operation was performed after the icterus had been present from two to four weeks there were four deaths—three due to hepatic insufficiency and one to pancreatitis. In twenty-two cases in which operation was performed after the icterus had been present for from four to eight weeks there were three deaths—two due to hepatic insufficiency and one to anuria. In thirteen cases in which operation was performed after the icterus had been present for from two to six months there was one death which was due to pneumonia. In ten cases in which operation was performed after the icterus had been present longer than six months there were no deaths. Three patients treated by anastomosis and four treated by transduodenal choledochotomy died of hepatic insufficiency.

These figures indicate that the longer the duration of the icterus the less the danger of death. Therefore in the acute febrile stage of complete occlusion of the bile ducts the treatment should be medical if possible. However the choice of treatment is difficult because of the danger of perforation of the gall bladder pericholecystic abscesses and beginning peritonitis. None of the authors' patients died of cholemic hemorrhage.

In the after treatment, glucose and insulin should be given. It is possible that the mortality might be lowered by performance of the operation in two stages with the formation of an external biliary fistula to relieve the stasis in the first stage and the radical operation in the second stage.

The end results in the author's cases are presented in a table. Of forty-one patients who were operated upon, thirty-nine were benefited. Of the latter, thirty-one were completely cured. Ten have remained cured for four years, fifteen for eight years and three for twenty years. The operations were performed for icterus due to a benign condition usually stone formation.

The author next discusses simple or hepatogenous icterus in three cases of which he obtained a good result merely by performing an exploratory laparotomy. Von Haberer, Frangenheim, and Backhaus have also operated successfully on similar cases but they diverted the bile. In Denk's case diversion of the bile was not necessary as the gall bladder and bile ducts were free from stones and the latter were neither dilated nor fragile.

(FRANCE) CLARENCE C. REED, M.D.

Grinnell, R. S. Omentopexy in Portal Cirrhosis of the Liver with Ascites. *Ann. Su.* 1925, 101, 891.

This report is based on a study of twenty-two adequately followed cases of portal cirrhosis of the liver with ascites which were treated by omentopexy. Fifteen of the patients were males. The youngest patient was twelve years old and the oldest sixty-eight years. The average age was forty-one years. The average duration of symptoms before the operation was eleven months. Forty-three per cent of patients gave a history of alcoholic excess. Jaundice was present in only 21 per cent and was mild. Ascites was present in every case. Its average duration before the operation was six months. The operation performed was either the Chiasson modification of the Talma-Mori technique with suture of the omentum to the parietal peritoneum or some other variation in which the omentum was placed in the peritoneal tissues or in or between the split rectus muscle fibers.

Six (27 per cent) of the patients died within eleven days after the operation. Of the remaining sixteen, twelve died later, two (12 per cent) are living and two could not be traced after a year. The two who are still living are free from symptoms after five and seventeen years respectively. Seven (43 per cent) of the patients who were classified as benefited survived the operation for one-half to ten and a half years.

Thirteen (59 per cent) were not benefited. Six of the latter died soon after the operation. The remaining seven showed a progressive course uninfluenced by the operation and died after from three weeks to six months.

The two patients who are still alive and free from symptoms and two who were benefited showed evidence of a collateral portal circulation at the time of the operation, a finding which the author regards of prognostic value. The average age of the two patients who are still alive and free from symptoms and of the one benefited patient who survived for ten years was nine years less than that of the entire group and fifteen years less than that of the group who were not benefited.

The author believes it probable that omentopexy would prove of greater value if it were performed earlier, before liver injury becomes severe and it were done even before the development of ascites in cases with hematemesis or evidence of an established collateral circulation. If it is accompanied by ligation of the coronary vein and vasa brevia and possibly in certain cases by splenectomy, which reduces the flow of blood through the portal vein by more than 50 per cent, the danger of hemorrhage may be lessened.

The article is followed by an extensive bibliography. ARTHUR S. W. TOLSON, M.D.

Giuliani, M. Hypercholesterolemia as a Cause of Hepatic Calculosis (*Lipercolesteremia nella patogenesi della calcolosi epatica*). *Arch. Ital. di chir.* 1935, 19, 61.

The author discusses the pathogenesis of calculosis of the liver and concludes that one of the causes of the condition is an excess of cholesterol in the gall bladder bile due to hypercholesterolemia. In studies of the gall bladder bile in 2 cases of strawberry gall bladder he found the content of cholesterol to be 8 and 10 parts per 1,000, an amount much higher than the normal. When the patients were re-examined six and seven years after cholecystectomy the amount of cholesterol in the bile extracted by sounding of the duodenum was only 1 part per 1,000.

In experiments carried out by Giuliani on dogs, stasis of the gall bladder was produced by fixing the gall bladder to the duodenum. This resulted in strawberry gall bladder, the formation of calculi and an increase in the amount of cholesterol in the gall bladder bile. Calculosis and strawberry gall bladder with excess of cholesterol in the gall bladder bile can be produced by injecting colon bacilli into the gall bladder with or without fixation of the gall bladder to the duodenum.

From his clinical observations and chemical and experimental research the author concludes that stasis and infection are important factors causing an excess of cholesterol in the gall bladder bile accompanied by strawberry gall bladder and cholelithiasis and that therefore cholecystitis with or without stones should be treated by cholecystectomy. ANDREW GOSNOLD MORGAN, M.D.

Sabadini, I., and Curtillet, E.: Intraperitoneal Biliary Effusions Without Apparent Perforation of the Biliary Tract (Les épanchements biliaires intra-péritonéaux sans perforation apparente des voies biliaires). *J. de chir.*, 1935, 45: 191

When, in exploration of the peritoneal cavity, a generalized peritonitis with free bile in the peritoneal cavity is found, the stomach, duodenum, liver, and the extrahepatic biliary tract should be immediately examined for perforation. When no perforation can be found, a very interesting pathological problem is presented. The author discusses this problem on the basis of four clinical cases and experiments on animals. Cholelithiasis is almost invariably present, and commonly there is an occlusion of the common bile duct by either a stone or a pancreatic lesion.

The condition occurs more frequently in women than in men. As a rule there is a history of intestinal disturbance over a period of years. Sometimes there is a history of typhoid fever. The onset of the immediate illness is usually very sudden and associated with excruciating pain. The pain is generalized over the epigastrium, and not referred to any particular point. The temperature is invariably elevated, and in some cases there is a very high fever. In contrast, the pulse rate, although it may be elevated, is rarely very high. The abdomen is very tender and presents a generalized muscular defense. A peritoneal reflex is always noted. Jaundice is rare. When the effusion is walled off a tumor mass may be palpated. In nearly all cases bilirubin may be recovered from the urine.

In most of the cases a diagnosis of appendicitis with peritonitis is made. At operation, a biliary effusion is found in the free peritoneal cavity. This may or may not be sterile. The size of the gall bladder is usually surprising. The color of the gall bladder is usually grayish, indicating impending gangrene, but no perforation can be discovered. In none of the cases on record was a true gangrene of the gall bladder found. The wall of the gall bladder is often edematous and sometimes definitely infiltrated and indurated.

The treatment is always operative. All conservatively treated cases have been fatal. In cases treated surgically the prognosis is rather good. The operative procedure usually indicated is drainage of the abdominal cavity with cholecystostomy and choledochotomy or cholecystectomy and choledochotomy.

The author reviews all of the reported cases.

WILLIAM C. BECK, M.D.

Lipshutz, B.: Acute Cholecystitis. *Ann. Surg.*, 1935, 101: 902

This article is based on twenty consecutive cases of acute cholecystitis in which operation was performed within from three to twenty-four hours after the patient's admission to the hospital. In more than half of the cases the operation was done within twelve hours. In a few it was delayed for forty-

eight hours for better preparation of the patient. The literature presents evidence demonstrating that it is often impossible to determine the extent of the inflammatory process in the gall bladder or, especially in the aged, the presence of perforation, by clinical examination.

Because of the possibility of perforation and other complications such as peritonitis, ileus, and cholangitis, the author believes early operation is indicated. He states that early removal of an acutely inflamed gall bladder should decrease the incidence of pulmonary complications as the latter are dependent in part on reflex fixation of the diaphragm. Immediate operation is frequently contra-indicated by advanced age, marked obesity, advanced cardiovascular disease, severe diabetes, and pulmonary tuberculosis.

Cholecystectomy is the operation of choice unless the patient's condition permits only cholecystostomy. The latter is carried out in desperate cases and under only local anesthesia.

ARTHUR S. W. TOUROFF, M.D.

Gentile, A.: Cholecystogastrostomy and Hepatitis: An Experimental Study. *Arch. Surg.*, 1935, 30: 449

Gentile states that if a gastric pouch separated from the current of food is formed, cholecystogastrostomy can be performed on the dog under conditions more nearly comparable bacteriologically with those under which the operation is performed on human beings.

In experiments performed by him on twenty-five dogs the preliminary formation of a gastric pouch resulted in hepatitis. This change was less in degree than that resulting from the ordinary experimental performance of cholecystogastrostomy.

In twenty-two dogs on which Gentile performed a cholecystogastrostomy in a gastric pouch closed at the upper end, the hepatitis found at various periods after the operation was no greater in degree than that found following the preliminary operation.

The evidence therefore tends to refute the theory commonly held by surgeons that hepatic infection is a dangerous sequel to cholecystogastrostomy.

MINAS JOANNIDES, M.D.

Zampa, G.: The Effects of Denervation of the Cystic Duct (Sugli effetti dell' enervazione del dotto cistico). *Arch. ital. di chir.*, 1935, 39: 189

The probable importance of the nerve supply of the biliary tract in disease processes has been referred to often in the literature, especially by Meltzer. The author briefly reviews the two theories regarding the mechanism of emptying of the gall bladder. (1) that the emptying takes place by forcible expulsion through the cystic duct, and (2) that it occurs chiefly by absorption. The literature contains numerous references to the interrelationships of the musculature of the gall bladder, the neck of the gall bladder, the musculature of the lower end of the common duct, and the sphincter of Oddi.

The author reports a series of experiments in which he studied the gall bladder and its function after attempting to destroy the nerve plexus of the gall bladder neck by the local application of phenol. The experimental animals were rabbits and dogs.

In the experiments on rabbits the results were not uniform possibly because of thinness of the gall bladder wall and deep penetration of the acid. In general there seemed to be stasis of a mechanical type.

In the experiments on dogs a 50 per cent solution of phenol was used. Studies of the gall bladder at varying stages revealed evidences of stasis. The external appearance of the gall bladder and cystic duct were not markedly changed. When the gall bladder was opened the bile was usually found thickened, dense, dark and viscid. It contained a large quantity of mucus and in some instances was gelatinous and adherent to the mucosa. Frequently it contained precipitates of bile salts of varying size. As a rule the mucosa presented marked rugae and papillae and was opaque and discolored much as in catarrhal cholecystitis. The cystic duct remained pervious. In one animal it was dilated. In no animal was the gall bladder dilated. The author attributes the changes to the occurrence of stasis of a mechanical type not due to obstruction of the duct.

A. LOEW ROSE, M.D.

Brocq, P. The Treatment of Acute Pancreatitis
(Traitement des pancréatites aiguës). *Presse méd.*
Par 1935 43 217

In acute pancreatitis the glandular necrosis results from abnormal activation of the pancreatic juice in the substance of the gland. This causes liberation of lipase and amylase, hemorrhage into the gland, shock, and intoxication from the products of autodigestion, and hyperglycemia from the effect on the island of Langerhans.

The treatment should consist of early operation to drain the pancreas and externally the products of autodigestion. In addition any condition that can be recognized as a possible cause such as disease of the gall bladder and bile ducts, peptic ulcer or duodenal stenosis, should be treated if the condition of the patient permits further operative measures. In disease of the bile passages, cholecystostomy or drainage of the common bile duct is indicated. Since activation of the pancreatic juice is normally brought about by secretin and this in turn appears in the duodenum in the presence of acid chyme from the stomach, the stomach should be lavaged with mild alkaline solutions to remove its contents and neutralize the acid. General anesthesia and atropine may be found of aid in reducing the amount of secretin. There is some experimental evidence that certain salts and other medicaments may arrest the action of activated trypsin but their use is still in the experimental stage. The hypochloremia should be treated by replacement with chlorides. Hyperglycemia, if present, should be treated by giving insulin.

MAX M. ZIMMERMAN, M.D.

Bernhard F. The Surgery of Acute Pancreatic Diseases. (*Die Chirurgie der akuten Pankreaserkrankungen*). *Zentralbl. f. Chir.* 1935 p. 71

This article gives a very excellent review of the information regarding acute pancreatic necrosis that has been gained in the past five years. Today as formerly disease of the pancreas is believed to be preceded by disease of the biliary tract in almost 90 per cent of cases. Entrance of bile into the main duct of the pancreas leads to activation of the pancreatic juice with its serious effects in only 20 per cent of cases. Such penetration without detrimental effect has been found also during the course of other examinations such as cholangiography. On the whole the severity of the disease depends not upon activation of the pancreatic juice in the excretory ducts but on the activation of the juice in the gland lobules. The pancreas is irritated in disease of the biliary tract much more frequently than was formerly supposed. The irritation leads to the escape of ferments which is evidenced by the appearance of diastase in the urine. This may be observed in every severe gall stone attack. Therefore a persistent increase of diastase in the urine is an absolute indication for operation in the early stages of the disease. The irritation extending to the pancreas from the biliary tract is considered to cause a vascular spasm which in turn leads to malnutrition of the gland tissue and the appearance of abnormal protein substances which activate the trypsin. The condition is aggravated by the vagus irritation which always accompanies an acute gall stone attack and leads to increased secretion of pancreatic juice with its deleterious effects upon the damaged organ. It is evident that if the origin of pancreatic necrosis is believed to be exogenous from the pancreatic duct, immediate operation is indicated whereas if it is believed to be endogenous from vascular spasm delay of operation is indicated.

The pathologico-anatomical stages are (1) pancreatic edema, (2) pancreatic edema with fat necrosis, (3) hemorrhage into the organ, (4) necrosis with areas of softening, and (5) discharge of tissue particles and suppuration. Three clinical stages are recognized: (1) the stage of pain with characteristic radiation to the left shoulder, (2) the stage of ileus, and (3) the stage of peritonitis. Disturbances of external and internal secretions and disturbances of a general nature are of diagnostic significance. As the pancreatic juice reaches the blood, diastase is demonstrable and is found especially in the urine. The demonstration of trypsin in the blood and urine cannot yet be evaluated but the test for lipase in the blood is recommended for larger clinics because it is positive for a longer time than the test for diastase in the urine. Destruction of the islands of Langerhans and destruction of insulin by the trypsin are manifested by hyperglycemia and the excretion of sugar in the urine. The most exact findings are obtained by examination of the blood, especially glucose tolerance tests. General disturbances are evidenced particularly by a marked increase in the leucocyte

count, which may increase to from 50,000 to 60,000. An increase in the leucocyte count up to only 25,000 suggests a milder involvement which may subside spontaneously. Higher counts indicate severe disease. A reduction in the leucocytes indicates improvement. Only in the most severe cases does the organism become unable to produce a leucocytic reaction. The marked protein destruction occurring in severe cases is evidenced by the appearance of albumin and a large amount of brick-dust sediment in the urine. The appearance of urobilinogen and, at times, of urobilin indicates the degree of liver damage which is, of course, of great importance in the prognosis. If oliguria or urinary suppression occurs with a corresponding increase in the residual nitrogen and indican in the blood, the operative prognosis is very poor.

With regard to the indications for operation there are still two opposing views. According to one, early operation is necessary. According to the other, the management should be expectant and operation performed when required in the given case. The two views may be bridged by modern diagnostic information since, on the basis of this information, mild cases may be recognized as such and treated conservatively. In the stage of pain and the stage of ileus in not-far advanced cases it is always possible

to achieve a recession of the pancreatic manifestations by conservative measures. In the peritonitic stage, operation should always be done. If an expectant course is decided upon, maximal doses of morphine should be given with maximal doses of atropin to overcome the vagus irritation and the vascular spasms. Even if this treatment is successful, operation should be performed later—in the period from the second to tenth week—for treatment of the existing disease and prevention of recurrence of the complications. At operation, the circulation should be especially considered. Spinal anesthesia is contra-indicated. Local anesthesia supplemented with an ethyl chloride rauch is advisable. In milder cases the treatment may be limited to the biliary tract. It is not absolutely necessary to split the pancreatic capsule. It is sufficient to pack off the pancreas.

In the after-treatment, an intravenous drip should be used to improve the circulation. Insulin may be added to the solution to improve the carbohydrate metabolism, or heparin, Congo-red, and trypaflavin to overcome the trypsin poisoning. The possibility of pleural empyema, which not infrequently supervenes, and of pancreatic fistulas, pancreatic cysts, and fatal secondary hemorrhages must be kept in mind. (MAX BUDDE) LEO M. ZIMMERMAN, M.D.

GYNECOLOGY

UTERUS

Goldenberg-Bayler S. The Condition of Uterine Fibromas After the Menopause (Considérations sur l'état des fibromes utérins après la ménopause). *Gynecologie* 1935 34 39

The author states that with the cessation of ovarian function at the menopause uterine fibromas frequently become latent and may undergo considerable atrophy. On the other hand the symptoms may reappear after a period of latency.

Of 322 women with uterine fibromas who were treated in the Gynecological Department of the University of Bucharest in the period from 1921 to 1933 only 11 had passed the menopause. Nine of the latter were subjected to operation. In most cases the symptoms arising in the menopause are due to degeneration of the tumor or to some associated uterine or adnexal lesion.

The degeneration of the tumor is of various types. In 2 of the cases reviewed by the author it was of the hyaline type. Malignant degeneration of uterine fibromas is less common after than during the menopause. Of the 9 surgically treated cases reviewed by the author, sarcomatous degeneration was found in only 1.

In the majority of the cases the symptoms were aggravated by an associated lesion—in 1 case by a carcinoma of the cervix and in 4 cases by ovarian cysts.

Recurrence of bleeding after the menopause in cases of uterine fibroma is not necessarily an indication of malignant degeneration of the tumor. Pelvic and abdominal pain occurs more frequently than bleeding at this time. Eight of the author's patients complained of uterine pain. Leucorrhoea is not a constant symptom. Only 2 of the author's patients had a discharge. One had a mucous discharge associated with hyaline degeneration and the other a fetid discharge associated with mucous polyps of the cervix. Three patients had bladder symptoms and 2 had general symptoms such as weakness and cardiac symptoms.

In cases of fibroma causing symptoms after the menopause surgical treatment is indicated. The operation of choice is hysterectomy. In the cases of obese patients, those of patients in poor general condition, and those in which the tumor is infected by teratoma may be done by the vaginal route. Abdominal hysterectomy may be total or subtotal according to the condition of the cervix. Of the 9 cases reviewed by the author, a subtotal abdominal hysterectomy was done in 6, a total abdominal hysterectomy in 2 (including the case with cervical carcinoma) and a vaginal hysterectomy in 1.

ALICE M. MEYERS

Lacassagne A. The Development of Irradiation Therapy of Cervico Uterine Epitheliomas (Über die Entwicklung der Strahlenbehandlung der cervicouterinen Epitheliome). *Strahlentherapie* 1934 51 417

In local radium therapy interstitial application (radium puncture) is more and more being replaced by intracavitary application because of the difficulty in controlling the dosage and the dangers (necrosis, fistula formation) in the former method. Radon and radium are being used instead of mesothorium. Filtration with from 1 to 2 mm. of platinum or with lead, copper, or silver in corresponding equivalents is being universally employed. The applicators used for the cervix are in the form of capsules which occupy the entire length of the cervix in a chain arrangement and those used for the portio consist of flat disks or a triangular apparatus to be placed around the cervix.

The author discusses the various methods employed especially those used in Paris and Stockholm but also those employed in England, Germany, Italy and Belgium citing their advantages and disadvantages. The total dosage varies between 1,000 and 8,000 mgm. administered simultaneously from the uterus and vagina in the proportion of two thirds to one third or vice versa. Radium therapy at a distance has the disadvantage of requiring a large amount of radium. Other disadvantages of this treatment are the difficulty of protecting the rest of the patient's body and the attendants from the irradiation and the difficulty in securing correct placement of the radium bomb. Most apparatuses are made for the use of 4 gm. of radium at a distance of 10 cm., with an exposure of from three to four hours daily. The results are not yet definite. In Paris better results are apparently being obtained today than formerly but only when the irradiation at a distance is combined with local radium therapy.

The attempt to make the X rays equal radium rays has led to the construction of large apparatuses yielding from 600 to 700 kv. The results so far obtained with such apparatuses seem promising.

The author briefly discusses the development of X ray technique from the Seitz-Wintz procedure to the Coutard method and compares the single-dose method with fractional protracted irradiation.

He states that the advisability of postoperative irradiation must be determined for each case individually. He asks why if the X rays are believed to destroy cancer cells remaining after operation it is necessary to operate before the irradiation and if the X rays are not believed to destroy cancer cells why should prophylactic postoperative irradiation be given. He states that the last word regarding pre-operative irradiation has not yet been

spoken. In Germany, Mayer is especially in favor of such irradiation. During the last few years there seems to be general agreement that treatment by both the intracavitary application of radium and external roentgen irradiation yields the best results. In the technique employed most frequently radium is applied for the administration of either one massive dose or fractional doses and external X-ray irradiation is given after a shorter or longer interval. In some clinics, however, the sequence is reversed in order to disinfect the tumor bed to prevent infection when the radium is introduced and to obtain better permeability of the cervical canal. Several radiologists give the radium and roentgen irradiation simultaneously.

(HEINZ KIRCHHOFF) LEO A. JUENKE, M.D.

Paroli, G.: On the Treatment of Carcinoma of the Cervix in Pregnancy (Sul trattamento del carcinoma cervicale in gravidanza) *Riv. ital. di ginec.*, 1935, 17, 641.

In carcinoma of the cervix complicating pregnancy radium irradiation will not disturb the progress of the pregnancy or injure the child if too strong doses, endocervical application of the radium, and preventive amputation of the neck of the uterus are avoided.

Deep roentgen therapy is always injurious to the child.

Cancer of the cervix in pregnancy responds well to radium treatment.

While in a few cases pregnancy seems to stimulate tumor activity, in the majority it seems to inhibit neoplastic growth.

The author states that in his clinic, carcinoma of the uterus is never considered an indication for therapeutic abortion, no matter how advanced the lesion or what the stage of the pregnancy.

As a rule, women who have been treated with radium should be delivered by simple cesarean section as soon as labor begins, particularly if the radium irradiation was instituted long before labor. In certain operable cases, the cesarean section may be followed by a radical operation. Subtotal hysterectomy should never be performed as radical hysterectomy is necessary for removal of all of the neoplastic tissue.

RICHARD E. SOMMA, M.D.

Newell, Q. U., and Crossen, H. S.: Five-Year Results in Fifty-Six Cases of Carcinoma of the Corpus Uteri. *Am. J. Obst. & Gynec.*, 1935, 29, 326.

The authors emphasize that in comparing the results of different methods of treatment of corpus carcinoma of any grade it is essential to compare cases of carcinoma of approximately the same extent, i.e., early cases with early cases and late cases with late cases. Otherwise erroneous conclusions may be drawn as to the efficacy of the various procedures.

Of the cases reviewed, death resulted in nearly all of those in which only irradiation treatment was given.

The safest treatment for carcinoma of the corpus uteri is operation supplemented by irradiation. In

the authors' cases in which the patient is a good operative risk hysterectomy of a type suitable for the disease is carried out and supplemented by irradiation to devitalize any cancer cells which may be beyond the structures removed. The irradiation may be given before or after the operation or both, and with radium or the X-rays or both. If the patient is a poor operative risk, the treatment employed is determined by consideration of the seriousness of the contra-indication to operation and the efficacy of irradiation on a growth of the type and extent presented.

EDWARD L. CORNELL, M.D.

ADNEXAL AND PERIUTERINE CONDITIONS

Soimaru, A.: Generalized Peritonitis from the Rupture of a Pyosalpinx (Péritonites généralisées par rupture du pyosalpinx) *Gynécologie*, 1935, 34, 21.

Soimaru reports five cases of pyosalpinx rupturing into the peritoneum and reviews the literature on the condition. He finds that generalized peritonitis resulting from the rupture of a pyosalpinx occurs in women from twenty to thirty-five years of age. The rupture may be a traumatic rupture of a chronic pyosalpinx with latent infection and thin walls or the perforation of a pyosalpinx following an acute inflammation with ulcerative lesions in the tubal wall. The latter is much more dangerous than the former as the infection is more virulent. Two of the author's cases were of the first type and three of the second.

At operation, a considerable quantity of pus is found in the peritoneal cavity. In the author's cases in which operation was performed three hours after the rupture the intestines were found congested and covered with fibrinous plaques, whereas in those in which operation was performed five or six hours after the rupture the intestines were found distended, and loops agglutinated, and the peritoneum congested. The fact that the pyosalpinx is usually more or less bound down by adhesions in chronic cases tends to limit the spread of the infection. The co-existence of a suppurating cyst of the ovary with a pyosalpinx has been observed in some cases, including one seen by the author.

In many cases the rupture of the pyosalpinx is preceded by an increase in the pelvic pain and a rise in the temperature. At the time of the rupture the pain suddenly becomes more severe and the swelling disappears. The rupture may be followed by general collapse. Among the symptoms accompanying the rupture are pallor, perspiration, coldness of the extremities, and increased frequency of the pulse. In some cases there may be fever, nausea, and vomiting (two of the author's cases). Muscular rigidity of the abdominal walls develops more rapidly in women with abdominal muscles of good tone than in multiparæ with relaxed abdominal muscles. It is generalized over the entire abdomen.

If there is a definite history of tubal infection, the diagnosis of rupture of a pyosalpinx is relatively easy, but if the patient has not been under observa-

tion previously the condition is often believed to be peritonitis due to appendicitis.

When a tubal infection shows evidence of the development of pyosalpinx with the danger of rupture (which occurs in about 3 per cent of the cases) operation is preferable to medical treatment. If rupture occurs operation should be performed immediately as the mortality increases rapidly with delay of surgical intervention. The author believes that removal of the tube and ovary on one or both sides with drainage is the operation of choice. In four of his five cases removal of the tube and ovary on the affected side with the use of a Mikulicz drain and drainage of the peritoeolic spaces resulted in recovery. **ALICE M. MERRIS**

Fels E. The Corpus Luteum Hormone and Its Isolation (Das Corpus luteum Hormon und seine Reindarstellung). Arch f Gynaek 1934 158 364

This article summarizes the findings of a five year study of the corpus luteum hormone. The test used by the author which is based on the original method of Corner is described in special detail. A detailed description of the test is essential because the results are extremely variable as has been shown by control investigations with the Corner test the Clauberg test and the so-called 'clinical unit'. The source of the hormone was the hog ovary. From the corpora lutea of eight animals a Corner unit of corpus luteum hormone was obtained. The corpus luteum hormone can be demonstrated also in the placenta and the urine of pregnant women but only after the follicular hormone has been removed. However the amount of corpus luteum hormone in the placenta is too small for use of the placenta as the source of the hormone for experimental investigations.

The author confirmed the findings of other investigators which have demonstrated an antagonism between the corpus luteum hormone and the follicular hormone. The administration of follicular hormone inhibits the action of the corpus luteum hormone whereas the action of the follicular hormone does not influence the action of the corpus luteum hormone. It is impossible to determine definitely the amount of follicular hormone necessary to inhibit the action of the corpus luteum hormone. Fels believes that the effect on the pelvic ligaments of the guinea pig and the maturation of the vaginal epithelium which has been ascribed by other investigators to the corpus luteum hormone is due to the effect of the follicular hormone.

The ovulation inhibiting effect of the corpus luteum hormone was demonstrated by investigations on rabbits. On the other hand in artificially induced maturation of the follicles it was impossible to suppress ovulation by injecting pregnancy urine.

The author briefly refers to the isolation of the corpus luteum hormone which he accomplished with Slotta. This work has been published in detail elsewhere. As yet there are no extensive statistics on the therapeutic use of the corpus luteum hormone. **(M. KIELDOCK) HAROLD C. MACK M.D.**

Bergstrand H. Luteinization of the Ovaries in a Case of Basophilic Pituitary Adenoma with Cushing's Syndrome (Luteinisierung der Ovarien bei einem Fall von basophilem Hypophysenadenom mit Cushing's Symptomenkomplex). Arch f path 1934 93 473

The author reports a case of basophilic pituitary adenoma in a forty-two year-old woman who presented almost all the classical symptoms of the Cushing syndrome. The tumor had grown into the cavernous sinus and had caused bilateral chemosis. Because of the presence of pronounced hirsutism and adrenal or ovarian tumor was suspected at first and both ovaries were removed. From the clinical standpoint it is noteworthy that menstruation had continued for a long time and had ceased only when the patient's general condition became very poor.

Of the anatomical manifestations those in the ovaries were most striking. The ovaries showed numerous graafian follicles, blood spots and luteinized follicles (corpora lutea atretica), all three of the reactions which are noted in the ovaries of infante mice after the experimental administration of gonadotrophic hormone. In spite of this the Aschheim Zondek reaction of the urine was negative.

This case supports the theory that the gonadotrophic hormone of the pituitary is formed in the basophilic cells. The adrenals were enlarged and the thyroid was diminished in size and presented sclerosis of the parenchyma although showing evidence of hyperfunction.

(K. J. ANSELMI) HAROLD C. MACK M.D.

Brindeau Riehl Hinglais and Hinglais. An Enormous Amount of Lutein Hormone in the Urine in a Case of Lutein Cyst (Présence d'une forte quantité d'hormones lutéinisantes dans les urines dans un cas de kiste lutéinique). Bul Soc d'obst et de gynéc de Par 1935 24 15

As the lutein hormone Irolan B is rarely excreted in the urine in the absence of pregnancy the authors report a case of sterility in which 120 units of Irolan B in addition to a considerable amount of Irolan A was found in the urine. The patient was a woman of thirty years of age who came for treatment for sterility. Menstruation had been regular but scanty. Under opotherapy the menses stopped a tumor formed to the right of the uterus and symptoms suggesting extra uterine pregnancy developed. At operation a cyst of the right ovary which proved to be a lutein cyst was discovered. Twelve days after the operation the Prolan B had completely disappeared from the urine.

This is the second case of lutein cyst the authors have seen in which the urine contained considerable amounts of Prolan A and Prolan B. The amount of Prolan B in this case was larger than the amount found by them in any other condition except pregnancy and chorionepithelioma. They therefore conclude that the maximum amount in the absence of pregnancy is 120 units instead of the 100 units they assumed previously.

The theory that, in the case reported, a disturbance of prolan secretion may have been responsible for the formation of the lutein cyst was refuted by the rapid disappearance of the hormone from the urine after the operation. Apparently the cyst stimulated the abnormal production of prolan. While it would have been interesting from this point of view to determine the amount of Prolan B in the lutein tissue itself, this was unfortunately impossible.

AUDREY GOSS MORGAN, M D

Stein, I F., and Leventhal, M L.: Amenorrhea Associated with Bilateral Polycystic Ovaries
Am J Obst & Gynec, 1935, 29 181

The authors report seven cases in which amenorrhea was associated with bilateral polycystic ovaries. They state that bilateral polycystic degeneration of the ovaries is more likely to be due to hormonal influences than to inflammatory changes.

The diagnosis of ovarian disease is greatly facilitated by the use of pneumoventerography.

In the cases reported, treatment of the amenorrhea with estrogenic hormone proved unsatisfactory whereas surgical treatment consisting of wedge resection of the cystic cortex of the ovaries was followed by complete restoration of physiological function. In every instance menstruation became normal and remained normal during the period of observation. Two of the patients became pregnant. In no case was recurrence of the polycystic change in the ovary discovered on follow-up examination.

The authors believe that the amenorrhea and sterility in such cases may be due to mechanical crowding of the ovarian cortex by the cysts which interferes with the progress of the normal graafian follicles to the surface of the ovary.

EDWARD L CORNELL, M D

EXTERNAL GENITALIA

Eichenberg, H. E.: Hydradenoma of the Vulva
(Hydradenoma vulvæ) *Ztschr f Geburtsh*, 1934, 109, 358

The author reports thirteen cases of hydradenoma of the vulva, a condition which has been recognized from its histological and clinical characteristics in only a comparatively few instances. In twelve of the cases it was apparently benign but in one case it proved to be carcinomatous. Although malignant degeneration is rare, the possibility of its occurrence renders hydradenoma of the vulva of as much importance from the standpoint of the clinician as from that of the pathologist who must determine whether it is benign or malignant.

The nodules, which range from the size of a pea to that of an almond, are usually subcutaneous and lie only a few millimeters below the surface. They are generally found in the labia majora, but in two of the author's cases they were in the labia minora near the clitoris. The nodules are cystic. In three of the author's cases they were distended by fluid contents. In one case the cyst measured 10 by 15 mm. In such

cases the papillomatous proliferation fills only a part of the lumen, whereas in others it fills the lumen nearly completely. The papillary proliferation sometimes takes its origin from a broad base, sometimes from a small circumscribed portion of the cyst wall, and sometimes from a single pedicle. It is usually labyrinthine, but not infrequently it is of a more papillomatous character with finely branching papillae and plicated filaments. Transitional forms between the labyrinthine adenomatous and the papillary formations are observed. In only some of the branching structures is the connective tissue supporting structure of the growth found in abundance and occasionally sclerotic and showing hyaline cloudy swelling. Elsewhere it is usually present in only very small amounts, it is delicate, and it contains capillaries which are occasionally dilated. In only one of the author's cases was the epithelium of the proliferation double layered throughout. In the others it showed a double layer in only certain areas. The lower layer consisted of flat spindle and cuboid cells, and the upper layer of cylindrical cells. Stratification often becomes quite extensive without being destructive even when, as in one of the author's cases, it sends off into the surrounding tissues solid projections from which tubules are formed. In general, tubular formations are rare. In five cases the author observed large pale cells of the type found in the apocrine glands and the mammary glands. The resemblance is not superficial but striking since, within a cavity, projecting septa, like narrow papillae, are completely covered by these characteristic large pale epithelial cells which fill the narrow spaces between them. The epithelium of the portions of the cyst wall which are free from papillae is similar to that in the labyrinths of the proliferation except that it is sometimes stretched. Occasionally, also, tubular projections extend into the connective tissue capsule which, for the most part, is thin and formed by compression of the tissues surrounding the cyst. In the neighborhood of the cyst sometimes stasis and occasionally inflammatory infiltration of a mild grade is to be found under the surface. In addition, distended sweat glands are almost always present. In only one of the author's cases was extensive hyperplasia of the sweat glands observed in the involved region.

Although the at first peculiar and marked proliferation is not sufficient to lead to a diagnosis of carcinoma because it occurs within the cyst, and although clinical experience over a period of years, even in cases of recurrence following incomplete removal of the cyst mass, speaks against malignancy—in a case cited the new nodule was only the size of a lentil five years after the operation—caution seems to be indicated by the following case.

A woman thirty years old developed beneath the skin at about the center of the inner surface of the left labium majus a movable, almond-sized cystic nodule containing a papilloma measuring 5 mm. In this case also a double-layered epithelium and large pale cells were found. The unusually marked epi-

thelial proliferation in certain areas and especially the projection of strands and tubular formations in many directions into the surrounding tissues led to a diagnosis of a leio-carcinoma. The left labium majus was therefore completely removed together with the lymph nodes in the left inguinal region. In one lymph node in the labium a small portion of new growth and metastasis were found. Two years later the patient was still free from evidences of recurrence.

In discussing the differential diagnosis the author cites a case of intracystic papillae formation in the region of the external orifice of the urethra which was recognized without difficulty as being a metastasis from a carcinoma primary in the ovary. This case shows the importance of thorough removal and histological examination of the nodules.

(H. MEYER MEYER) HARRY A. GILMAN M.D.

MISCELLANEOUS

Reiprich W. The Biology and Diagnostic Therapeutic Importance of the Sex Hormones of the Anterior Lobe of the Pituitary Gland. (Ueber die biologische und diagnostisch-therapeutische Bedeutung der Sexualhormone des Hypophysenvorderlappens). *Ztschr. f. Geburtsh. u. Gynäk.* 1933 109 125.

The author reports an investigation of the effects upon the genitalia of infantile female rats of large doses of prolan (aeminster) within the shortest possible time. In rats weighing 40 gm. doses of from 50 to 200 rat units injected in a period of from six to eight hours produced a marked ovarian reaction which was stronger than that occurring in the normal control animals. The effect produced was similar to that obtained with the gonadotropic principle in pregnancy urine. As it was found that rats possess an extraordinarily great resistance to such gonadotropic hormones, an attempt was made to utilize the quick reaction for a rapid method of diagnosing pregnancy.

The newly recommended modification with the use of the infantile female rat can be used as early as thirty hours. As compared with the Friedmann reaction it has the advantages of being much simpler and not requiring a modern laboratory. After injections of from 5 to 200 m pregnancy urine divided into two or three portions into rats weighing from 40 to 50 gm. a positive reaction could be recognized as early as thirty hours after the first injection. In the enormous hyperemia and distinct enlargement of the ovaries.

In investigations to determine whether the genital changes produced in the mature female rat by the gonadotropin will undergo regression and the time at which the regression can be expected it was found that the normal genital cycle recurred from 5 to six weeks after the administration of several hundred rat units of prolan. The effects of large doses of extract of the anterior lobe of the pituitary gland on the female genital tract are described in detail in experiments on infans female rats

and rabbits, pre-hormone, pregnon, oesthormone and prolan were injected over a period of from two to three weeks. The doses for rats ranged from 200 to 500 units and those for rabbits from 1,000 to 5,000 units. Following a transitory extensive luteinization histological examination showed signs of recurrence of the normal cycle after two months in the rats and after from two to four months in the rabbits. Biological tests showed the possibility of a temporary sterility. The cause of this temporary sterility was luteinization of the ovary with corpus luteum formation and inhibition of the maturation of follicles. The sterility may have been dependent upon the size of the hormone dose as it appeared to be reversible when medium sized doses were administered.

In conclusion Reiprich says that the therapeutic application of chronic prolanization to endocrine disturbances in the human female appears to be justified and to be recommended for cases in which all other methods of treatment have failed.

(H. MEYER) HAROLD C. MACK M.D.

Negri A. The Problem of Discharge from the Genital Tract. (Il problema del coryza genitale). *Riv. med. chirurg. de pad. femminile* 1933 3 21.

In this article which is based on the literature and his own experience Negri discusses the participation of the different parts of the genital tract in the origin of genital discharges, the causes and diagnosis of such discharges, the biology of the vagina in relation to genital discharges, the bacteriology of the genital organs and the treatment of genital discharges. He emphasizes that the vagina can succrate a great variety of pathogenic bacteria without developing inflammation and without a change in the appearance or activity of its secretion. When autopyretic infection fails pathologic changes appear only when predisposing causes such as lack of keratinization or maceration of the epithelium are present. The presence of leucocytes is the most important index of abnormality.

In the cases of fifty subjects with a vaginal discharge Negri investigated the presence of lactic acid, calculated the glucose content, studied the flora and worked out a correlation between the glucose content and A. Hysteria (four grades of purity of the vaginal flora). He believes that autopyretic infection of the vagina is regulated by the quantity of glucose present which in turn is related to the epithelial glycogen. When the diastatic ferment are lacking the vaginal bacillus which requires a minimum of glucose come either to disappear or become morphologically changed and bacterioid power and the vagina becomes invaded by organisms from the vulva. An antiseptic is not able of preventing this invasion in the fact that the vaginal bacteria which produce contact bacterioid bacteria.

The only rational treatment of vaginal infection is hygienic treatment consisting of the vaginal hygiene. Although bacteria treatment may have some effect on the discharge it does not remove the cause.

ing bacteria in only a minority of cases. Glucose-broth cultures of the vaginal bacillus and bacillus lactis aerogenes introduced into the vagina survive only twenty-four hours. Methods directed toward the acid factor are ineffective. The first requisite is the supplying of glucose. After three or four applications of powdered glucose to the vaginal walls the vaginal bacillus may appear spontaneously. If it does not, it can be introduced. This treatment is equally successful in cases of "essential" vaginal discharge.

In cases of cervicitis, Negri has found that amputation of the cervix gives good results when the condition is of the chronic hypertrophic form. Diathermy is very efficacious. Cauterization by Fulho's method is also of value but less effective. Local and pelvic vaccination has proved disappointing.

The article contains photomicrographs and is followed by a bibliography. M E MORSE, M D

Martynenko, P., Teneta, E., Paniutine, J., Goloubeva, O.: Comparative Evaluation of Physiotherapeutic and Surgical Methods in the Treatment of Infections of the Female Genital Organs in Relation to the Recovery of Work Capacity (Évaluation comparative des méthodes physiothérapiques et chirurgicales dans le traitement des inflammations de l'appareil génital de la femme en rapport avec la reprise du travail) *Gynécologie*, 1935, 34 73

The authors state that the problem of the application of physiotherapeutic and surgical methods to the treatment of inflammations of the female

genital tract and especially the problem of the restoration of the capacity to work after these diseases by this or that treatment have not been sufficiently elucidated in the present-day literature.

In the majority of the reports on such inflammations only the results of treatment are given whereas the prompt return of the working woman to her duties should occupy the center of attention, especially in Russia where socialism is being developed. Under the conditions of the capitalistic régime the problem of restoring working capacity is of less importance.

After thirty years of surgery the conservative treatment of pelvic inflammatory disease, either as a preliminary to surgery or without supplementary surgery, has been revived.

Conservative treatment should be continued for three years before operation is considered. The methods employed consist of hot vaginal tampons of mud, diathermy, and ionotherapy (calcium). The functional results are best in chronic inflammatory disease due to puerperal infection, next best in "diverse" genital infections, and third best in infections due to abortion. With regard to the nature of the "diverse infections" the authors state only that these conditions do not include tuberculosis.

The superiority of conservative treatment to surgical treatment is proved by elaborate statistics based on 693 cases in which the disease was of from one to ten or more years' duration. The chief criteria employed are the amount of time lost from work and the number of subsequent pregnancies.

ALBERT F. DE GROAT, M D

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Robecchi E. A Study of Hepatic Function in Pregnancy. The Curve of the Amino Acids in the Blood (Contributo allo studio della funzionalità epatica in gravidanza. La curva aminoacidemica da parto) *Gine oligo* 1935 1 53

In spite of extensive investigations the exact status of the liver during pregnancy has not been definitely determined. Functional tests tend to show some decrease of hepatic function, but we do not know whether this change is the result of damage to an intact liver by substances originating in the pregnancy or of an increase of changes already present in the liver produced by such substances.

Robecchi reviews briefly the various tests of liver function under normal and pathological conditions. He discusses especially the tests which are based on the metabolism of amino acids. For his investigations he selected the test introduced by Bufano in 1927 which consists in determining the behavior of the amino acids after the administration of glycocholi.

The Bufano test is carried out early in the morning with the patient fasting and in bed. Blood is withdrawn from a vein in the antecubital fossa and 10 c cm. of a warm 12.2 per cent solution of the purest glycocholi are injected. Blood is again taken fifteen thirty and sixty minutes after the injection. The total amino acid content of the blood is then determined by the method of Folin. The test causes no immediate or late disturbances. As a basis for comparative amino acid values, the author used seven normal non pregnant women and two patients with cirrhosis of the liver whose blood had an amino acid content comparable to that reported by other investigators.

Of the sixteen pregnant women studied normal hepatic function was found in 12 (75 per cent), slight hepatic insufficiency in 3 (18.7 per cent) and sluggishness of the liver in 1 (6.2 per cent) in the seventh month of pregnancy. Although the results of the amino acid test appeared slightly elevated the test indicated normal hepatic function in all. On the other hand of three women with hyperemesis slight hepatic insufficiency was found in two (66 per cent) and of seven women with albuminuria normal hepatic function was found in five (71.4 per cent), slight hepatic insufficiency in one (14.2 per cent) and sluggishness of the liver in one. In the single case in which the blood amino acid content of the blood was determined before delivery the values were found to be abnormal. Of the cases in which delivery occurred prematurely or the eclampsia had been cleared up the test showed a change in hepatic function in 50 per cent. Tests were made also for urobilin in the urine and bilirubin in the blood.

While determinations of the amino acids carried out during fasting are of no value because under these conditions the quantity is low even in the presence of hepatic insufficiency the amino acid curve usually shows slight variations from its initial level even when the liver is definitely involved (cirrhosis eclampsia). These variations seem to be due to varying factors dependent upon some particular balance of nitrogen in pregnancy the synthesis of protective substances the passage of amino acids from the maternal to the fetal blood the ability of the placenta to form urea the influence of pregnancy on the function of the endocrine glands, and the condition of the sympathetic nervous system.

These facts emphasize how difficult it is to interpret the results obtained in a study of liver function by the glycocholi test the corrections that must be made in these results and the necessity of correlating the findings of this test with the results of simultaneous tests of the efficiency of other organs. Moreover it must be remembered that we know very little about the various components of hepatic function their effects on each other and the humoral and nervous factors causing changes during pregnancy which are difficult to detect and may render the findings of a single test uncertain. Whereas a certain amount of reliance may be placed on a test which shows a marked deviation from the normal a relative insufficiency of the liver cannot be excluded by a test with negative results.

ELMER T. LINDY, M.D.

Quinto P. Nephrectomy and Pregnancy (Nephrectomia e gravidanza) *Riv. ital. ginec.* 1935 17 615

Quinto reports three cases in which nephrectomy was performed during pregnancy.

The first case was that of a woman thirty one years old who entered the clinic in the fourth month of pregnancy one month after a nephrectomy for calculous pyonephrosis of the left kidney. As examination revealed a nephritic condition of the remaining kidney the pregnancy was interrupted. Uneventful recovery resulted. The second and third cases were similar.

On the basis of these cases and the literature the author has come to the conclusion that nephrectomy performed after conception does not endanger pregnancy provided the remaining kidney is healthy and the operation performed in the first few months of the pregnancy.

Symptoms in the remaining kidney indicate lesions which are unquestionably aggravated by pregnancy. In the presence of such symptoms interruption of the pregnancy is the only therapeutic measure to be considered.

In the cases of women who desire to have a child after a nephrectomy a careful investigation of the nature, site, and degree of the lesion which led to the removal of the kidney should be made and the patient advised as to the time necessary after the nephrectomy to insure complete compensatory readjustment of the remaining kidney.

In nephrectomized women the course of the nephropathies of pregnancy is more or less the same as in women who have not been nephrectomized although the tendency toward the development of such nephropathies in the former may be greater.

In the cases of nephrectomized women the same criteria should be adopted concerning treatment and prognosis, labor, and the puerperium as in the cases of women with both kidneys who have a bilateral nephropathy.

In cases of pyelonephritis of pregnancy in nephrectomized women the same therapeutic measures should be employed as in the cases of non-nephrectomized women with a similar but bilateral involvement, due consideration being given to the immediate and potential dangers which may arise as the result of the infection, whether referable to the pregnancy or to anatomical and functional changes in the kidney.

RICHARD E. SOMMA, M.D.

Puccioni, L.: Genitoperitoneal Tuberculosis and Pregnancy (Tuberculosis genito-peritoneale e gravidanza) *Riv. ital. di ginec.*, 1934, 17, 363

The author reviews the literature on genitoperitoneal tuberculosis complicating pregnancy from 1885 to date and reports two cases.

He accepts the theory that occasionally the generalized spread of a tuberculous process may be brought about by pregnancy. During pregnancy, an adneal lesion may be activated, and after delivery a true tuberculous septicemia simulating a puerperal infection may occur.

The genital organs offering the most favorable conditions for the rapid development and spread of a tuberculous process are the tubes and the uterus. The uterus is usually involved secondarily to the tubes by continuity or by way of the blood lymph or blood stream. Infection by way of the blood stream tends to occur at the site of the insertion of the placenta.

There are two theories regarding peritoneum involvement in cases of genital tuberculosis. According to one, the infection spreads from the peritoneum to the tubes whereas, according to the other, the spread is from the tubes to the peritoneum. The author believes that most frequently the infection is primary in the tubes as the tubal involvement is often the more marked.

The diagnosis of genitoperitoneal tuberculosis complicating pregnancy is rendered difficult by: (1) the vagueness and relative mildness of the symptoms in the initial stages, (2) tendency to attribute the abdominal pain, malaise, and vomiting to the pregnancy; (3) the frequent presence of tuberculous foci in other organs to which the attention of the

physician is directed; and (4) the relative infrequency of the association of genital and peritoneal tuberculosis with pregnancy.

The author's conclusions are summarized as follows:

1 The association of genitoperitoneal tuberculosis with pregnancy is relatively rare.

2 In most cases in which genitoperitoneal tuberculosis is associated with uterine pregnancy, the localization in the peritoneum and the genital organs occurred after conception, whereas in most cases in which genitoperitoneal tuberculosis is associated with extra-uterine pregnancy the localization took place before conception.

3 Pregnancy has an unfavorable effect on tuberculosis, favoring its rapid diffusion and evolution and frequently its generalization.

4 The chief danger is generalization of the tuberculous process which quite often is evidenced after expulsion or removal of the embryo, probably because of implantation of the tubercle bacilli in the area of insertion of the placenta.

5 The course of pregnancy is influenced unfavorably by the coexistence of tuberculosis of the peritoneum and genital organs. Abortion and premature interruption of the pregnancy are frequent.

6 The diagnosis of genitoperitoneal tuberculosis complicating pregnancy is difficult because of the vagueness and mildness of the symptoms in the early stages and because of the relative rarity of the association.

7 The treatment should be predominantly surgical and should include aspiration of the ascitic fluid, interruption of the pregnancy, and removal of the genital organs involved by the tuberculous process. The surgical treatment should be followed by physical therapy.

8 The prognosis is frequently very unfavorable.

CLARA RAVEN.

Falls, F. H.: A Critical Study of 500 Cases of Eclampsogenic Toxemia. *Am. J. Obst. & Gynec.*, 1935, 29, 316

Eclampsogenic toxemia can be controlled in most cases by reducing the amount of protein split products in the blood and increasing elimination by the bowel. When the symptoms do not yield to conservative management, the uterus must be emptied.

Cesarean section is indicated in cases of fulminating toxemia and when induction of labor or delivery from below is contra-indicated.

Eyeground examination is of little aid in determining the severity of a given case. The phenol-sulphonphthalein test is of value in the prognosis.

To reduce the incidence and severity of postpartum convulsions, the treatment should be continued after delivery until the symptoms have been definitely relieved. Sedatives, intravenous injections of magnesium sulphate, and intravenous injections of glucose, while rational and in some cases helpful, are not essential in the antepartum treat-

ment Patients first seen in labor are usually best delivered from below

Elderly primipara near term but not in labor are best delivered by cesarean section because of the danger and uncertainty of delivery by induction of labor

There is no advantage in dividing the cases into eclampsia low reserve kidney pre eclampsia and eclampsia

Because of the prematurity and toxic condition of the babies in these cases extra precautions must be taken to insure their safety during labor and in the first days after birth

EDMUND L. CORVELL, M D

LABOR AND ITS COMPLICATIONS

Scleounoff, T An Inquiry into the Value of Rectal Examination in the Course of Obstetrical Delivery (*Enquête sur la valeur du toucher rectal au cours de l'accouchement*) Rev. franc. de gynéc. et d'obst. 1935 30 1

Koenig, chief of the Gynecological and Obstetrical Service at the University of Geneva proposed that a survey be made to determine whether obstetricians prefer rectal examination to vaginal examination in deliveries Two hundred and eighty questionnaires were sent to various obstetrical specialists in Europe and America The first questions asked whether the chief of the department had students or student midwives on his service The other questions were as follows

3 Do you use only rectal examinations in your service?

4 Do you consider rectal examination sufficient?

5 Do you permit midwives to make vaginal examinations?

6 Are the students authorized to make rectal and vaginal examinations?

7 Do you believe that vaginal examination causes a higher morbidity and mortality than rectal examination?

Before reporting the findings of the questionnaires the author gives a thorough review of the literature on puerperal infection both before and after the time of Holmes and Semmelweis and presents statistics from various sources notably those of Paukow and those of Lantos and Labhardt The latter, which were based on 6354 deliveries showed fewer febrile reactions in women who had been examined by the vaginal route than in those who had been subjected to rectal examinations

The findings of the questionnaire are grouped according to the country from which the replies came and are summarized as follows

1 Rectal examination is practiced exclusively by 79 per cent of the obstetricians replying (particularly the Swiss group)

2 Seventy-one and ninety nine hundredths per cent of the obstetricians consider rectal examination insufficient in both normal and abnormal cases Twenty-one and thirty four hundredths per cent

regard it as sufficient in normal cases but insufficient in abnormal cases

3 Seventy three per cent consider vaginal examination indispensable to midwives

4 The majority of the chiefs of services permit students to make vaginal examinations

5 Seventy two per cent consider vaginal examination harmless if it is practiced according to a rigorous technique

MASS W POOLE M D

McNelle L G and McBurney R D Statistical Study of Uterine Ruptures California & West Med 1935 42 73

Of 17350 consecutive obstetrical cases uterine rupture occurred in 30 or in 1 of every 578 cases The authors claim that rupture of the uterus is nearly always preventable While rupture through a cesarean scar in a subsequent pregnancy or labor is serious they find that the prognosis for the mother is far better under such circumstances than in other cases of complete rupture The chief factor responsible for rupture of the uterus not occurring in a cesarean section scar is an attempt to shorten labor by an operative procedure without regard to the obstetrical indications or conditions A woman who has had a cesarean section should be delivered by cesarean section at or near term in subsequent pregnancies

The prognosis in cases of rupture of the uterus depends to a great extent upon the time at which the condition is recognized and treated The authors believe that if conditions as regards asepsis are satisfactory the lower uterine segment should be examined manually for possible injury after every operative delivery

J THORNWELL WITHERSPOON M D

PUERPERIUM AND ITS COMPLICATIONS

Mikulicz Radecki F von The Treatment of Atonic Postpartum Hemorrhages Together with a Report on the Methods Used by the General Practitioner in East Prussia in the Treatment of Postpartum Hemorrhages (*Die Behandlung der atonischen Nachgeburtsblutungen. Zugleich ein Bericht ueber die Taetigkeit des praktischen Arztes bei Nachgeburtsblutungen in Ostpreussen*) *Muenchen med. Wchschr.* 1934 II 1708 1745

The author reviewed obstetrical cases in the province of East Prussia (a total of 111255 deliveries conducted by midwives in the years from 1923 to 1933) to determine what methods are used by general practitioners to combat atonic postpartum hemorrhages According to the midwives records postpartum hemorrhages occurred in 3362 of these deliveries the incidence being therefore 3.03 per cent A physician was summoned in 74 per cent of the cases The mortality was 0.36 per 1000 deliveries

Before the delivery of the placenta (200 treated cases) manual separation of the placenta was done in 47 per cent of the cases The Credé maneuver under

narcosis in 0.3 per cent, the simple Credé maneuver in 4 per cent, and tamponade of the uterus in 9.27 per cent. After expulsion of the placenta (276 treated cases), digital examination was done in 18 per cent and tamponade of the uterus in 1 case. In the remaining cases other methods proved sufficient. Manual separation of the placenta was therefore performed comparatively frequently. It appears that when the placenta cannot be separated completely by medicinal means, the general practitioner decides at once to resort to manual separation without first trying the simple Credé maneuver or the Credé maneuver under narcosis. According to the experience of the Koenigsberg Clinic, the incompletely separated placenta can be removed by these two procedures in 28 per cent of cases of postpartum hemorrhage.

The author next gives rules for the treatment of atonic postpartum hemorrhages by the general practitioner. He states that when the history and the course of labor suggest the possibility of atony a prophylactic intramuscular or intravenous injection of extract of the posterior lobe of the hypophysis should be given. In the treatment of mild cases the intramuscular injection of pituitrin and massage of the uterus are indicated. In urgent cases the pituitrin should be given by intravenous injection and when the hemorrhage exceeds 500 ccm the intravenous injection of pituitrin should be followed by the simple Credé maneuver. If this treatment fails the Credé maneuver under narcosis is indicated. For this the author gives the following rules. Begin the induction of the narcosis. Inject an echolic. Carry out the Credé maneuver when the uterus becomes hard. Separate the placenta manually. In cases of hemorrhage following expulsion of the placenta it is best to give an intravenous injection of $\frac{1}{2}$ ccm of pituitrin and of gynergen simultaneously. The uterus should then be massaged and a T-binder applied. Digital examination is necessary when there is doubt as to whether the placenta has been expelled completely and also sometimes when there are blood clots in the uterine cavity. Tamponade of the uterus is highly to be recommended. Occasionally, compression of the aorta is of aid. This is accomplished most easily with Momburg's tube or manually. The combined maneuver of Fritsch and that of Zweifel are seldom employed.

(BUREHL) FLORENCE ANNAN CARPENTER

Paine, C. G.: The Etiology of Puerperal Infection
Brit M J, 1935, 1: 243

The active invaders in most puerperal infections are hemolytic streptococci. They are carried by the hands of the obstetrical attendant, by droplet infection from the noses or throats of those present at the delivery, or by the patient's hands. The author endeavored to determine the principles of the mechanics of droplet spray by means of an apparatus he devised which consists of a plaster cast of a face through which are bored holes to represent the nares and a partly opened mouth. A spray charged

with a suitable organism was used. It was found that little spray passed upward. Most of the droplets fell rapidly, and their greatest concentration was from 10 to 20 in from the mouth.

The findings indicated that genital infection of the patient from the upper respiratory tract of the accoucheur may be produced by either high- or low-momentum droplets. Infection by the high-momentum stream occurs by direct implantation into the vaginal introitus. The low-momentum stream infects the front of the operator's gown and his sterile gloves.

Paine concludes that masks of sufficient thickness and tied securely under the chin with a minimal air gap at the sides should be used in all deliveries.

ALBERT W. HOLMAN, M.D.

Morosova, A. N., Komkova, O. A., Moroleva, A. M., and Terekhova, A. A.: The Part Played by Anaerobic Infection in the Etiology of Puerperal Diseases. The Clinical Picture, Diagnosis, and Treatment of These Diseases (Role de l'infection anaérobie dans l'étiologie des maladies post-puerpérales. Clinique, diagnostic et thérapeutique de ces maladies). *Gynec et obst*, 1935, 31: 128

The authors report an investigation which was made in 100 cases of puerperal sepsis to determine the importance of anaerobic bacteria in puerperal infections.

They found anaerobic bacteria in 33 per cent of the cases. Of the latter, the bacillus perfringens was found in 25 per cent and the anaerobic streptococcus in 20 per cent. Cultures of the bacillus perfringens were found to be virulent in 66 per cent of the cases. The combination of non-virulent strains of the bacillus perfringens with non-virulent aerobic streptococci is virulent. In experiments on laboratory animals fetid and putrid streptococci showed little or no virulence.

In the cases of very severe generalized infection (septicemia and septicopyemia) in which the bacillus perfringens was found, the mortality was 55.5 per cent, in those with putrid anaerobic streptococci it was 43 per cent, in those with both the bacillus perfringens and the anaerobic streptococcus it was 100 per cent, and in those with anaerobic streptococci it was 53 per cent.

Anaerobic bacteria are discovered much less frequently in the blood than in the discharge. The authors found the bacillus perfringens in the blood in only 2 cases and the anaerobic streptococcus in only 1 case.

The clinical signs of puerperal infection due to anaerobic bacteria include early evidences of intoxication, the triad of jaundice, cyanosis, and a dark brown color of the urine and blood serum, the rapid formation of infiltrations and sometimes of abscesses in the peritoneal tissues, and, in exceptional cases, crepitation of the uterus.

Anaerobic infections are much more severe and associated with a much higher mortality than

aerobic infections. A search for anaerobic bacteria should be made in every case of puerperal infection and if the bacillus perfringens is found a biological study should be carried out to determine its virulence. An effort should be made to discover bacteriological methods for early diagnosis.

Anaerobic serum should be given as soon as possible after the development of clinical symptoms or at least immediately after the demonstration of anaerobic bacteria. In the authors' cases a preliminary dose of 2 c cm is given to determine the reaction of the organism and half an hour later a dose of from 50 to 100 c cm is administered. The total dosage is from 100 to 650 c cm. As puerperal infections due to anaerobic bacteria are accompanied by anemia and signs of asphyxia it is well to supplement the use of anaerobic serum with blood transfusion.

AUDREY GOSK MORAN, M.D.

MISCELLANEOUS

Sherman J. T. A Study of Seventy Eight Patients with Hydatidiform Mole. *Am J Surg* 1935 27: 237

Of 182119 women delivered in the Lying In Hospital, New York City, in the period from 1804 to 1934 hydatidiform mole was found in 78. Hydatidiform mole therefore occurred in 1 of every 2334 pregnancies. One of the moles occurred in a tubal pregnancy. Chorionepithelioma was found in only 1 of the entire series of cases. This malignant disease did not follow hydatidiform mole. Of 12 women with hydatidiform mole who were followed for two

years 11 did not develop chorionepithelioma. One developed a chorionepithelioma eighteen months after expulsion of the original mole, but as she had an incomplete abortion in the interval the author believes the malignancy was secondary to the abortion rather than to the mole.

Seventy three per cent of the 73 patients with hydatidiform mole were multigravidae. Twenty seven aborted spontaneously or required interference at the third month. Forty two aborted before the sixth month and 1 in the seventh month. Twenty nine and four tenths per cent showed definite symptoms of either early or late toxemia. The uterus was larger than in the corresponding period of amenorrhea in 58 per cent and small in 6.8 per cent. In 35.2 per cent the relative difference was not apparent. The A. Chhheim Zondek test was used only once and then after the diagnosis was evident. It was positive in a dilution up to 10 per cent. Bilateral polycystic lutein cystomas were found in 3 patients. The morbidity was 4.2 per cent and the mortality 2.5 per cent. The deaths were due to unnecessary operative interference.

The author states that lutein cystomas of the ovaries should not be removed. He believes that if the disease is properly handled it is not accompanied by the high morbidity and mortality usually credited to it. Proper management may prevent hemorrhage and sepsis, the 2 most frequent causes of death. Subsequent careful observation for a period of at least a year may prevent chorionepithelioma from becoming firmly established.

ALBERT W. HOLMAN, M.D.

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Crooke, A. C., and Russell, D. S.: The Pituitary Gland in Addison's Disease. *J. Path. & Bacteriol.*, 1935, 40 235.

In the course of an examination of serial sections of pituitary glands from unselected autopsies a conspicuous paucity of basophile cells was observed in sections from a case of Addison's disease. The percentages of different types of cells found by the authors in the anterior lobe of the pituitary gland of an apparently normal male agreed well with Rasmussen's results in a large series, viz. chromophobe cells, 59.7 per cent, acidophile cells, 29.3 per cent, and basophile cells, 11 per cent. In five cases of Addison's disease these percentages ranged as follows: chromophobe cells, from 71.64 to 89.7 per cent, acidophile cells, from 8.45 to 27.04 per cent, and basophile cells, from 0.05 to 0.54 per cent. In these glands a group of transitional abnormal basophiles ranged from 0.89 to 1.78 per cent in four cases, but amounted to 8.13 per cent in one case. Basophile cells were encountered in the posterior lobe of the glands from twelve cases of Addison's disease in which they were studied, and in some of the cases the invasion was marked. In ten of these twelve cases the thymus was abnormally developed. In nine of these cases the thyroid gland was studied. In two cases the block of thyroid obtained showed colloid retention. In the remaining seven cases excessive activity was evidenced to a variable degree by tubular—often branched tubular—and rounded acini that were empty or contained a small amount of pale coagulum or desquamated epithelium. Most of the areas occupied by the active acini were infiltrated with lymphocytes. In five of these cases the thyroid had characteristics typical of Grave's disease.

The atrophy of the adrenal cortex producing Addison's disease is described. The authors conclude that it is a destructive atrophy which is essentially different from the simple atrophy of the cortex following destruction of the anterior lobe of the pituitary gland, and therefore constitutes evidence that Addison's disease is not due primarily to pituitary change.

In nine of their series of twelve cases of Addison's disease injections of a commercial preparation of adrenal cortex had been given from a few days to nineteen months before death. There was no evidence that the treatment had produced an increase in the number of basophile or basophile transitional cells.

The occurrence of hypertension and hyperglycemia in pituitary basophilism suggests that the opposite conditions found in Addison's disease may

be due to a reduction of pituitary basophilism such as was demonstrated in the reviewed cases.

PAUL STARR, M.D.

Woodruff, S. R., and Bumpus, H. C., Jr.: Is Nephrectomy Always Indicated Following a Diagnosis of Unilateral Renal Tuberculosis? *J. Am. M. Ass.*, 1935, 104 716.

The authors review some of the literature on the healing of renal tuberculosis. They believe that in its early stages the condition should be treated hygienically, preferably in a sanatorium, and that nephrectomy should be performed when there is evidence of extension of the disease, when caseo-cavernous conditions can be demonstrated, and when the renal function has become markedly diminished.

ANDREW McNALLY, M.D.

Waters, C. A.: Pre-Operative Irradiation of Cortical Renal Tumors. *Am. J. Roentgenol.*, 1935, 33 149.

Waters reports three cortical renal tumors and discusses the reaction of these neoplasms to roentgen irradiation. He states that tumors of the hypernephroma type and embryonal carcinomas are radiosensitive while papillary carcinomas of the renal pelvis and malignant papillary cystadenomas are radioresistant. Irradiation reduces the size of radiosensitive tumors so they become operable and induces an alteration in their cellular structure, extensive fibrosis, hyalinization, and necrosis. Operative removal is imperative and should be carried out a few weeks after either the first or second series of irradiations, depending on the degree of shrinkage of the tumor, because new growth may occur if operation is delayed. Pre-operative irradiation does not render operation more difficult. Ninety-three per cent of tumors of the renal cortex observed by Waters have been radiosensitive.

FRANK M. COCHEMS, M.D.

Pohle, E. A., and Ritchie, G.: Malignant Tumors of the Kidney in Children, with a Report of Six Cases. *Radiology*, 1935, 24 193.

In reporting six malignant tumors of the kidney in children the authors describe the histological findings in three and discuss the pathology, diagnosis, and treatment of such neoplasms. They conclude that the best treatment is irradiation followed by surgical removal and postoperative irradiation. The best time for operation must be determined for each patient. The mass should be so reduced by the irradiation that it is barely palpable before its removal is attempted.

The ultimate prognosis is extremely poor, the mortality being well above 90 per cent.

FRANK M. COCHEMS, M.D.

Franceschi E. A Contribution on the Pathology and Clinical Aspects of Squamous Cell Carcinoma of the Renal Pelvis (Contributo alla patologia ed alla clinica del cancro a cellule piatte primario della pelvi renale) *Arch ital di urol* 1916 12 70

Squamous cell carcinoma of the renal pelvis which was first described in detail in 1861 by Rokutanski is not a common neoplasm. The author reports a case of such tumor in a woman sixty five years old. The patient presented herself because of painless hematuria. The diagnosis was established by retrograde pyelography. The author emphasizes that retrograde pyelography is essential for delineation of the tumor mass. This cannot be accomplished by excretion urography. The typical sifting defect in the renal pelvis is evident when the contrast medium is introduced into the kidney pelvis from below. Invariably the contrast medium flows back into the bladder. In the case reported, nephrectomy and ureterectomy were done. The patient made an uneventful recovery. When she was re-examined four years after the operation there was no evidence of recurrence or metastasis and cystoscopy showed the bladder to be normal. Pyelography was refused.

In cases of the condition under discussion the author has observed a partial prolapse of the intramural portion of the ureter into the bladder, a sign not previously reported in the literature. He believes that this has a purely mechanical basis.

He states that in the treatment of squamous-cell carcinoma of the renal pelvis simple nephrectomy is usually preferable to nephro-ureterectomy. He cites especially the good results which have been obtained in American clinics with the simpler procedure.

WILLIAM C BECK M.D.

Blasini A. A Contribution on Femoral Hernias of the Ureter (Contributo alle ernie femorali dell'uretere) *Arch ital di urol* 1935 13 3

The author reports 4 cases of femoral hernia in women in which the ureter was contained in the hernia. In all of the cases the diagnosis was made at operation performed for what was believed to be a simple femoral hernia. The ureter was easily recognized because of its gray color and the fine tortuous vessels on the serosal surface. It was found on the mesio-inferior segment of the sac, emerging from below the lacunar ligament. After reposition retrograde ureterography showed the lower third of the ureter to be tortuous as might be expected.

Most patients with femoral hernia of the ureter are tall and thin and have very weak and lax abdominal muscles. Their general habitus is that usually associated with general enteroptosis (Glenard's disease). All of the author's patients and most of those whose cases have been reported by others were multiparous women. It is possible that multiparity is a factor of etiological importance since during pregnancy all of the abdominal tissues are relaxed and the ureter is elongated. Under such conditions a change in the intra abdominal pressure may

more easily depress the ureter into the sac of the femoral hernia.

It is difficult to differentiate a hernia of the ureter from prolapse of the round ligament of the uterus or from blood vessels by clinical examination. There are seldom any signs suggesting the presence of the ureter in the hernial sac. Only rarely is there a complaint of difficulty in micturition. Occasionally however the patient admits nocturia. On physical examination there are no pathognomonic or even suggestive signs. The condition is therefore an accidental finding at operation.

While hernia of the ureter is usually considered rare the author's 4 cases were found in a series of only 100 cases of femoral hernia.

WILLIAM C BECK M.D.

Dellepiane G. Lesions of the Ureter Produced in the Course of Operations and Their Treatment (Le lesioni ureterali nel corso di interventi operativi e loro trattamento) *Gineva opus* 1935 6 5

After discussing the various methods of dealing with a ureter cut accidentally during a gynecological operation Dellepiane reports briefly three cases of such injury. In none of them was a conservative procedure possible. In two exclusion of renal function by ligation of the ureter resulted in clinical cure. In the third case in which the ureter was cut in a Wertheim hysterectomy for carcinoma of the cervix a secondary retrovaginal fistula developed. Following the formation of the fistula the kidney was treated by roentgen irradiation. Dellepiane discusses the risks of this procedure. The chief risks are infection, hydronephrosis and subnormal function of the other kidney. However Dellepiane believes that by suppressing the function of a kidney after injury of its ureter roentgen therapy of the kidney given as soon after the operation as possible is a valuable adjunct to ligation of the ureter.

Following a brief review of the literature on the effects of the roentgen rays on the kidney he reports experiments on 19 dogs in which he treated the exposed kidneys with from 1/4 of an erythema dose to 6 erythema doses of roentgen irradiation, using a Coolidge tube 1/2 mm. of zinc plus 3 mm. of aluminum 2 ma. and 180 kv. then studied the function of the kidneys by ureteral catheterization and after an interval examined the kidneys histologically. He found that exclusion of the kidney required at least 4 erythema doses, an amount which cannot be given clinically without causing great injury.

He reports a case of ureteral fistula in which the administration to the accurately localized kidney of 95 per cent of an erythema dose through three fields resulted in a decrease in the secretion of urine. Since it has been shown clinically that it is possible to give only from 90 to 100 per cent of an erythema dose to a kidney and about 4 erythema doses are necessary to exclude the kidney Dellepiane believes that after cutting of the ureter roentgen therapy is of value because it hastens the process of renal exclusion initiated by the ligation of the ureter. He

presents photographs of rabbits' kidneys, one of which had been subjected to 2 erythema doses of roentgen irradiation and the other of which was untreated after ligation of the ureter. The unirradiated kidney showed the more marked hydronephrosis.

In conclusion Dellepiane says that, when possible, the injured ureter should be repaired by a conservative method. The procedure of choice is ureterocystoneostomy. When conservative treatment is impossible and it is necessary to suppress the function of the kidney, ligation of the proximal end of the cut ureter may be done instead of nephrectomy if there is no infection and the function of the other kidney is good. This will result in atrophy of the renal parenchyma. When the formation of a ureteral fistula seems probable the kidney should be treated with from 90 to 100 per cent of an erythema dose of roentgen irradiation as soon after the operation as possible to hasten the suppression of kidney function.

EUGENE T. LEDDY, M.D.

BLADDER, URETHRA, AND PENIS

Franceschi, E.: Experimentally Produced Hernias of the Mucosa of the Urinary Bladder (*Ernie sperimentali della mucosa della vescica urinaria*) *Clin. chir.*, 1935, 11, 3

The experiments reported were performed on mature dogs and rabbits. Some of the animals were pregnant. The bladder was exposed by a midline incision and if it was not full of urine it was distended artificially. Portions of the musculature and the overlying peritoneum were then excised. In all cases sufficient musculature was removed to produce a herniation of the bladder mucosa. In only one instance was the bladder reperitonealized.

Following a brief postoperative disturbance, micturition became normal. The period of observation ranged from twelve days to four months. The author's report of the results is supplemented by diagrams of the operative removal of the bladder mucosa, cystograms made after the animals had been killed, and photomicrographs of sections taken at the site of operation.

The findings indicate that in normal animals the creation of a weakened area in a bladder wall is not sufficient to produce a diverticulum. In none of the animals studied was any marked change demonstrated in the outline of the bladder roentgenologically. Franceschi concludes that neither the normal intravesical pressure nor the usual functional stresses undergone by the bladder are sufficient to initiate or continue the formation of a diverticulum, no matter where the bladder wall is weakened. In the experiments reported the repair of the injured area in the bladder wall began early in one or more planes by the proliferation of tiny areas of muscle in the region from which the muscularis has been stripped. The growth of these muscle fibers was facilitated by a very vascular newly formed connective tissue from the bladder wall. The mucosa is rarely the site of degenerative or infiltrative

processes, rarely becomes infected, and rarely perforates.

The peritoneal layer was repaired rapidly and soon resumed its normal appearance. Dense adhesions were seldom found. As a rule only filiform adhesions were produced by the newly developed serosa. These were probably explained by the mechanical action due to the motility of the bladder. In the areas where the muscle had been stripped off there developed a muscular or musculosfibrous zone which at times produced a slight distortion in the cystogram but never interfered with the normal elasticity or distensibility of the bladder. As there was no well-marked interruption of continuity in the elastic fibers in the submucous coat, it did not seem likely that the presence or absence of elastic fibers in the submucous layer played an active part in the train of events immediately following the operation. After the bladder with herniated mucosa was replaced in the abdomen the hernia became, and remained, reduced. No evidence of extorsion was found either immediately after the operation or later. This observation is explained by the fact that the intra-abdominal pressure tends to remain at a constant level, the fact that distention of the bladder is regulated by a neuromuscular mechanism, and the fact that when distention of the bladder exceeds a certain point it produces the stimulus to micturition which spares the injured portion of the bladder wall.

EUGENE T. LEDDY, M.D.

Dean, A. L., Jr.: Epithelioma of the Penis. *J. Urol.*, 1935, 33, 252

The author reports a clinical study of 120 cases of epithelioma of the penis treated at the Memorial Hospital, New York. He states that cancer of the penis is not unusual in men under forty years of age. Nationality, occupation, or previous constitutional diseases (except syphilis) have no influence upon its occurrence. Unmarried men acquire the disease at an earlier average age than married men, and syphilis seems to develop penile cancer earlier than non-syphilitic. Syphilis probably increases susceptibility to the exciting causes of the condition. Trauma is of no etiological importance. An unusually high percentage of men with penile cancer have difficulty in exposing the glans penis, usually because of a long, tight prepuce, but the concealed penis may also be a factor. Cancer of the penis is caused by the mechanical and chemical irritation of secretions retained beneath the prepuce. Jews do not have cancer of the penis because they are subjected to ritualistic circumcision in early infancy. This practice affords complete protection against the development of penile cancer. When performed after adult age has been reached circumcision is of much less value as a prophylactic measure.

The flat and papillary types of penile cancer grow at the same rate, but the flat tumors metastasize earlier. At the time of the initial symptom cancer of the penis may appear in quite different stages of development because of differences in the degree of

phimosis present Sixty two per cent of the patients studied by the author first noticed a small but definite cancer The average length of time that elapses after the appearance of the first symptom before the patient seeks treatment is about a year In many cases additional time is lost by inappropriate treatment

The diagnosis should always be made by biopsy Biopsy properly performed is harmless Like epitheliomas elsewhere cancers of the penis metastasize by embolism Metastasis usually occurs earliest in the inguinal nodes and usually after the primary tumor has been present for a number of months At the time of the first examination inguinal adenopathy is present in about 6 per cent of the cases About half of the enlarged nodes are cancerous and half are inflammatory An error of about 14 per cent is unavoidable when the presence or absence of inguinal metastases is diagnosed by physical examination alone Aspiration biopsy is accurate and should be the method chosen to determine the character of enlarged inguinal nodes

Superficial penile cancers not exceeding 2 cm in diameter are regularly controlled by the use of radon plaques About 10 per cent of all cancers of the penis are of this type Penile cancers larger than 2 cm in diameter and those penetrating the epidermis require amputation 2.5 cm proximal to any visible or palpable evidence of the disease If no metastases are present more than 65 per cent of the cases should be controlled This operation efficiently removes all of the tumor and often preserves both the urinary and sexual functions of the penis Distal resection of the inguinal metastases should be delayed until several weeks after removal of the primary tumor in order to permit subsidence of infection within the nodes Routine radical amputation of the penis and bilateral groin dissection with or without emasculation is irrational External irradiation by means of a radium pack or the 200 kv roentgen ray unit is of little value in the treatment of metastases from penile cancers The use of the 700-kv unit or other more powerful sources of irradiation with the divided dose technique may prove effective

LOUIS NEUWELT M D

GENITAL ORGANS

Thompson C J and Cook E N Chronic Prostatitis and Prostatic Calculus Treatment by Incision with the Electrocautery *J Am U* 43: 106, 107, 108, 109

Chronic prostatitis often persists because of infected pockets or diverticula that drain only through a small prostatic duct Treatment by ordinary methods such as massage irrigation the injection of antiseptic substances or diathermy results in only temporary relief of the symptoms

Surgical treatment of these regions by the transurethral route will insure adequate drainage and subsequent improvement in a large percentage of cases The prostatic cavities must be widely ex-

cavated in the form of a saucer and, if necessary tissue should be excised to provide free flushing at the time of urination Unless this is done the infection will persist

Calculus embedded in the prostatic tissue which occur either primarily or secondarily to prostatic infection can be removed by transurethral operation

Graves R C and Miltzer R F Carcinoma of the Prostate with Metastases *J Urol* 1935 33: 23

The clinical histories and autopsy records of eighty-one cases of cancer of the prostate with metastases were studied The patients ranged in age from forty-one to seventy seven years but half of them were between sixty five and seventy four years Fifty six had received some form of treatment before their admission to the hospital Included in the previous therapeutic measures were such operations as suprapubic cystostomy and prostatectomy perineal prostatectomy radical perineal extirpation of the prostate and adjacent structures transurethral resection colostomy and resection of the presacral nerve

There was no correlation between the physical state of the patient and the local extent of the disease Metastatic retroperitoneal lymph node involvement was never palpable through the abdominal wall nor was any inguinal adenopathy demonstrated at autopsy or biopsy although palpable nodes were found often Supraclavicular adenopathy believed to be clinically malignant was found in three cases The relative hypotension often seen may be a manifestation of the weakened state accompanying malignant disease In four of the cases reviewed peripheral edema was caused by pressure on abdominal vessels

The disease process was confined to the prostatic capsule in only two cases In twenty nine cases it had progressed moderately beyond the gland limits into the vesicular area while in forty seven there was advanced local disease It seems that the small prostatic tumor often disseminates widely while the large prostatic masses show a definitely less marked tendency to produce widespread metastases In half of the cases reviewed the amount of residual urine was relatively small Rectal symptoms had no relationship to the disease process except in five cases in which a posterior extension of the carcinoma resulted in rectal obstruction There was no relationship between the blood picture and the extent and distribution of the metastases The incidence of obstructive changes in the upper urinary tract as evidenced by intravenous pyelography may be attributed to early roentgenographic studies in the course of the disease and poor renal function

In all but six of the cases metastases to bone were found either on roentgenographic examination or at autopsy The pelvis and sacrum showed involvement in 85 per cent of the cases and the lumbar spine in 59 per cent Next most frequently involved were the femur dorsal spine ribs and shoulder girdle in

the order named. Pathological fractures were found in the femur, clavicle, pelvis, and lumbar vertebra. None of the patients was bedridden solely because of bone lesions.

Treatment of the local disease was limited to palliative measures. The plan of therapy in carcinoma of the prostate with metastases cannot be standardized. Transurethral resection sometimes renders more extensive surgery unnecessary. High-voltage X-rays and radium were the most effective agents for the relief of pain due to metastases.

Postmortem examinations in 74 per cent of the cases showed metastases other than in bone most often in the lymph nodes, lungs, and liver. Pyelonephritis was the direct cause or the most important contributing cause of death in 41 per cent of the cases. Clinically, advanced renal infection may exist without significant pain and tenderness in the kidney region. Extensive pyelonephritis may occur without marked elevation of the blood nitrogen. The phenylsulphathalein test of renal function often affords a more accurate picture of the degree of kidney damage than chemical studies of the blood.

LOUIS NEWITT, M.D.

Moore, C. R.: Testicular Biology, Scrotal Function, and the Male Sex Hormone. *Ve. Fertil. J. Med.*, 1935, 212-222.

The author discusses some of the phases of spermatogenic activity and hormone secretion and function.

In animals made cryptorchid surgically, the germinal epithelium became completely disorganized in one week and the testicle free of germ cells in three weeks. Complete recovery resulted in from two to three months. When animals were made cryptorchid shortly after birth and the testicles were returned to the scrotum after five months, spermatogenic function was recovered in from seventy to ninety days. The scrotal replacement five months after birth corresponded to scrotal replacement in a human male between twenty and twenty-five years old. The degenerative changes were due to the increased temperature to which the testicle was exposed. The scrotal sac is an effective thermal regulator.

Contrary to former belief, vasectomy does not lead to the loss of all spermatogenic function. Hypertrophy of the interstitial cells does not necessarily follow, and even if it does occur, we cannot take it for granted that increased hormone secretion will result. Moreover, it is not established that excessive amounts of hormone lead to rejuvenation.

Testicular grafts can be implanted in many places, but spermatogenesis occurs only in grafts placed in the scrotum. Of over 100 transplantations in young rats the author obtained a successful incorporation in about 50 per cent. Autolyzing transplants produce no hormone.

Recovering the secretion or secretions of the testis has been facilitated by suitable methods of identifying them. The chief tests of identification are the castrated cock's comb regeneration test, the sper-

matozoan motility test, and the electrical ejaculation test. The source of the hormone is chiefly the testis of the bull, goat, ram, and pig and the urine of human males exclusive of boys under ten years of age. In man and the rat, the hormone secretion is continuous after it once begins. In certain other vertebrates it is seasonal. The hormone is not stored in the body, but is secreted in the urine.

It has been definitely established that the hypophysis is the major factor in the regulation of testicular activity, both that of spermatogenesis and that of hormone secretion. Absence of the hypophysis is lethal to the gonads to produce hormone or sperm. Introduction of hypophyseal material increases both hormone secretion, but does not greatly stimulate spermatogenic function. The amount of hypophyseal secretion in the blood is insufficient to stimulate the testis to full activity. Excessive amounts of pituitary hormone are injurious to spermatogenic function.

The gonadal hormone has a triple function as it controls the accessory sexual organs, the sex drive, and certain characters in behavior.

In conclusion the author states that these facts necessitate a change in certain theories with regard to vasectomy, gland transplantation, and the effects of castration. ALBERT MOORE, M.D.

Baccarini, L.: A Contribution to the Study of Chronic So-Called Aspecific Orchitis and Epididymitis. *Contributo allo studio delle orchitepididimiti croniche aspecifiche. In 2 vol. del. 1935, 11-179.*

The author discusses the salient features of the relatively recently recognized orchitis and epididymitis due to organisms other than those of tuberculosis, syphilis, and gonorrhea, and of bacteriologically negative cases of orchitis and epididymitis with fibrosis.

He then reports in detail a case of chronic epididymo-orchitis. While the condition in this case may have been related to an attack of typhoid fever occurring twenty years previously, Baccarini believes it more probable that the swelling in the scrotum was due to infection by the diplococcus mucosus secondary to urethritis. It is well known that the diplococcus mucosus may be present in the urethra under normal conditions. ALBERT ROSE, M.D.

MISCELLANEOUS

Scheele, K.: Traumatic Injuries of the Kidney, Ureter, and Bladder (Unfall-Niere, Harnleiter, Blase). *Zentralbl. f. Chir.*, 1934, p. 1383.

In this article, which is an address delivered at a meeting of the Accident and Insurance Medical Association in Berlin, Scheele presents a comprehensive review of, and the more recent opinions concerning, the results of accidental injuries and occupational diseases of the urinary organs.

He emphasizes the principles to be followed in determining whether a causal connection may be as-

sumed between changes in the urinary organs and an accident with consideration of the intensity of the force exerted the immediate local and general symptoms, and the interruption of work caused by the injury. He states that an effusion of blood into the kidney does not necessarily communicate with an evacuator route. Even in severe injuries, days may pass before it becomes evident as hematuria. On the other hand injuries giving rise to apparently serious hematuria may be followed by prompt and uninterrupted recovery. The author emphasizes the necessity for roentgen examination and functional tests of the urinary organs after injuries.

The appearance of albumin, leucocytes and erythrocytes in the urine should by no means be considered and treated as a non specific phenomenon. The urine will show their presence until the renal parenchyma destroyed by the injury is replaced by scar tissue. In injuries to the kidney immediate surgical intervention is indicated only by serious internal hemorrhage or the suspicion of associated injury to other organs. If operation is deemed necessary every effort should be made to preserve the kidney even though nephrectomy would perhaps give simpler wound conditions. From ten to twenty days after nephrectomy it may be assumed that the remaining healthy kidney has adjusted itself to take over the added work. However the body may require from one to two years to become accustomed to the new conditions.

The post traumatic formation of stone in the kidneys which is very rare may be brought about by two groups of conditions the development of centers of stone formation and changes in the urine. The centers of the stone formation are foreign bodies

with a surface that is foreign to urine which disturb the colloidal equilibrium of the urine in the kidney and renal pelvis. To these nuclei the stone forming materials become attached. Scheele discusses the possible changes in the condition of the urine which result from various influences. He deals individually with a number of injuries in which the requirements for metatraumatic stone formation may be met. Of special interest is his discussion of conditions leading to the formation of kidney stones following injuries to the spine and spinal cord.

While Scheele rejects the theory that a wandering kidney may be produced by a single trauma he states that such an injury can easily cause an existing wandering kidney to begin causing symptoms. The conditions are similar to those of renal tumor particularly hypernephroma. Of course hemorrhages are never absolute proof of the occurrence of trauma.

In discussing the sequelae of injuries to the ureter Scheele calls attention to the difficulties in the diagnosis and the relationships between the direct consequences of the injury and atony of the ureter. He discusses in detail traumatic injuries of the bladder which are possible under certain conditions but are due much more frequently to general or local diseases. He reports his not inconsiderable experience with bladder tumors in workers in the aniline dye industry and with hematuria in acute aniline poisoning. He states that during observation for a period of several years he has never seen the development of a tumor in cases of the latter condition. He reports also his observations with regard to disturbances of bladder function and their relation to injury.

(JAN. 24) FLORENCE ANNAN CARPENTER

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Anseroff, N. J.: The Arteries of the Long Bones of Man (Die Arterien der langen Knochen des Menschen) *Ztschr. f. Anat.*, 1934, 103: 793

The author reports studies of the relation of the arteries to the long bones in man, which is of particular importance in the localization of surgical tuberculosis and acute osteomyelitis, and reviews in detail our present knowledge of the subject. His investigations were carried out on many bone preparations representing all ages from the fifth month of intra-uterine life to adult age and prepared by various methods. Besides roentgen examination after injection, the clearing method of Spalteholz was used after previous decalcification. Macroscopic studies were made of the macerated bones obtained from the cadavers of 131 children and 150 adults.

The author states that the arteries of the diaphysis are the most important for the nutrition and the growth of the bone. These arteries are most numerous up to the age of two years. They then diminish in number and increase in caliber. The maximum caliber is reached at the fourth year of age. It is noteworthy that the foramina nutritia are narrower externally than at the entrance into the marrow cavity.

In the stage of most active growth the vascular tree shows a brushlike branching. Later, when growth is limited to the epiphyses, it assumes a reticular appearance. As a result of growth, the arteries of the bone change their direction. While they are originally perpendicular to the long axis of the bone, they later enter at an acute angle. Corresponding to the various periods of growth, namely, in the first and second growth periods, there are changes in caliber and branching.

The arteries of the compact bone in the diaphysis are in direct communication with those of the marrow cavity. They are very numerous in youth on the surfaces, but retrogress later except in the apophysis and the tuberosities. In youth, the arteries of the spongiosa of the diaphysis are arranged in brush formation. In the process of growth they are transformed into a reticulum. The arteries of the epiphysis enter the epiphysis gradually with the formation of cartilaginous canals. Except in the upper part of the femoral epiphysis, they are nowhere in communication with the metaphyseal arteries. At the upper end of the femur there is the fossa inter-trochanterica. Toward the end of the period of growth, at about the nineteenth year, the communicating branches between the epiphyseal and metaphyseal arteries appear through the epiphysis. These branches gradually increase up to the

end of the period of growth and the epiphysis finally disappears. (MAX BUDDR) JACOB E. KILIN, M.D.

Hunter, D., and Wiles, P.: Dyschondroplasia (Ollier's Disease). *Brit. J. Surg.*, 1935, 22: 507

Dyschondroplasia is a disease of the growing ends of the bones in which ossification of the cartilage fails to take place, with the result that areas of cartilage remain in the ends of the diaphysis. It is usually unilateral, but many bilateral cases have been reported.

The authors report a case of dyschondroplasia in a boy seven years old who began to limp at the age of eighteen months. On examination, the right leg was found to be 2 in shorter than the left. Most of the difference was in the femur. The right femur showed a slight outward bow, and there was limitation of abduction at the right hip. Roentgenograms of the right side disclosed lesions in the humerus, radius, metacarpals, hand phalanges, pelvis, femur, tibia, fibula, metatarsals, and phalanges of the foot. The most pronounced changes were in the lower end of the femur and upper end of the tibia. The normal pattern of the spongy bone had been replaced by dense longitudinal bony trabeculae with small, pale, mottled areas and scattered, dense, punctate spots. The pale areas varied in width from 0.1 to 0.5 cm. Chemical study of the blood showed the serum calcium to be 10.5 mgm per 100 c.c., the plasma phosphorus, 3.6 mgm per 100 c.c., and the plasma phosphatase, 0.335 mgm. The biopsy report on bone removed from the lower end of the tibia was as follows: "The cortices contains a large, irregular piece of hyaline cartilage. It does not have the appearance of normal epiphyseal cartilage. There is calcification on part of its periphery where the cells are hypertrophied. In other parts the cartilage passes directly into a zone of fibrous tissue. This inclusion of atypical epiphyseal cartilage remnants in the cortex is characteristic of congenital dyschondroplasia. There is no evidence of rickets or malacia."

The authors state that in every case of an unusual lesion in the end of a long bone a roentgen examination of the entire skeleton should be made for dyschondroplasia. The more rapidly growing end of the bone is most affected. The center of the shaft usually remains normal. In the upper end of the femur the lesion begins in the lesser trochanter and spreads across to the greater trochanter. In the ilium only the periphery is affected. Here the striped appearance of ossification is most noticeable. In the hand and foot bones the areas of abnormal cartilage in the cortex cannot be distinguished from simple enchondromata which occur independently of dyschondroplasia. The striped appearance of the bone

structure may be replaced by speckling as the patient grows older, but the bone probably never becomes quite normal.

The positive diagnosis of dyschondroplasia is based on the following facts:

1. The onset occurs in early childhood.
2. Roentgenograms show changes limited to the ends of long bones. The rarefied areas present a striped appearance which in later years becomes speckled.
3. The rarefied areas, if examined histologically, are found to contain cartilage.

There are several other diseases from which the disease must be differentiated. Diaphyseal aclasia or multiple exostosis has a strong hereditary feature, tends to involve the entire shaft and causes broadening of the epiphyses but does not change the homogeneous structure of the bone. Multiple enchondromatosis occurs usually in the hand and foot bones. Generalized osteitis fibrosa may produce pale cyst-like areas in any part of the skeleton with expansion of the cortex. It is more than a bone disease as the calcium in the blood serum and urine is high and the plasma phosphorus is low. It is to be regarded as due to hyperparathyroidism. Focal osteitis fibrosa may affect several bones in a haphazard manner but the chemical character of the blood is normal.

Deformities such as bowing of the bones often appear after the age of five or six years. Most of the cases reported are those of children but a few cases of the condition in adults are recorded. A patient who died of sarcoma at the age of thirty-five had had several fractures. Another patient died at the age of forty-nine years with a sarcoma of the thigh and another of anemia at the age of four and a half. Aside from the incidence of sarcoma the prognosis does not seem to be unfavorable. Deformities may be corrected by osteotomies without fear of non-union.

WILLIAM ARTHUR CLARE, M.D.

Brailsford J. F. Osteochondritis. *Brit J Radiol* 1935 8, 7.

In the past thirty years a rare condition of bone near joints with more or less deformity has been described by many clinicians. The condition has been designated by several terms depending on the point of its localization. Formerly all of these rare conditions were considered due to tuberculosis. It is now generally believed that they are due to osteochondritis.

The osteochondritis has been ascribed to congenital and developmental abnormalities, dystrophies, endocrine disturbance, faulty metabolism, infection, aseptic necrosis due to embolism, vasomotor disturbance and trauma.

The author is of the opinion that trauma is the primary cause and that the deformity is the result rather than the cause of the rarefaction. Whereas Jan and Calé believe that the deformity is the cause of the structural changes and suggest that there is some congenital defect, perhaps a slight sub-

luxation. Hypothyroidism may result in delay and irregularity in ossification of the epiphysis. Under such conditions weight bearing may deform the epiphysis so that osteochondritis is suggested. Rickets and scurvy may produce bone changes but the changes due to these conditions do not localize in the same manner as osteochondritis. Moreover, a history of rickets is given in only about 30 per cent of cases of osteochondritis. Some surgeons have reported finding streptococci in curettings of the femoral head affected by osteochondritis. Such a finding is very rare and may be due to secondary infection in an area of low resistance. Sepsis may produce a roentgen picture indistinguishable from that of osteochondritis at a certain stage but the clinical history and subsequent roentgen examination will differentiate the two conditions.

Separation of a bone from its blood supply is frequently observed but the behavior of the detached bone does not coincide with that of the bone in osteochondritis. Therefore the theory of embolism may be ruled out.

According to Leriche and Lohard, hyperemia results in rarefaction and anemia in increased density. However, osteochondritis cannot be explained on this basis. According to this theory, Koehler's disease of the tarsal scaphoid would be the result of a hyperemia of all of the bones of the foot except the diseased scaphoid which is much more dense than the surrounding bones. The author believes that the hypertrophy of the femoral neck ascribed by Legg to hyperemia is due to compression by weight bearing rather than to changes in blood supply.

In support of the theory that osteochondritis is due primarily to trauma is the fact that the bones most often affected—the head of the femur, the head of the second metatarsal, the scimitar bone and the vertebrae—are subject to the stress of weight bearing or other functional strains and the fact a history of trauma is obtained in about half of the cases. In some instances the trauma has been severe enough to justify roentgen ray examination. The findings were negative but osteochondritis developed later. It is suggested that the injury caused damage to the blood supply or nerves.

The early symptoms of Legg-Perthes disease or osteochondritis of the hip are limping and a tendency toward adduction. In a few cases there is pain which is sometimes referred to the knee. Motion is usually free except for limitation of abduction and rotation. The roentgen findings are sometimes more pronounced than is expected from the clinical symptoms. The earliest lesion observed is an increase in the density of the femoral capital epiphysis. Osteoporosis of the adjacent diaphysis occurs later and is followed by fragmentation of the head. Compression and flattening of the head and expansion of the end of the diaphysis occur next. After about eighteen months there are signs of regeneration in the epiphysis, of the absorption of dense fragments and of obliteration of the osteoporosis in the upper end of the diaphysis. After about four years the cancellous

structure of the bone will be normal, but the deformity in outline will remain. The epiphyseal growth cartilage does not disappear.

Most authorities agree that the treatment of osteochondritis of the hip should include immobilization. However, a few hold that it is unnecessary. The author is of the opinion that immobilization should be continued as long as the roentgenogram shows the bone to be plastic, that is, incapable of standing normal pressure without being deformed. Its continuation may be necessary for as long as four years. No treatment yet known will check or hasten the course of the disease.

Osteochondritis of the second metatarsal is more common in females than in males. Sometimes there is a history of injury to the foot. The head of the metatarsal is tender and painful and shows flattening in the roentgenogram. Adults may have this affection. Flat-foot is present in most cases. The treatment should be rest with the foot in a cast. When walking is begun again the shoe should have a metatarsal bar.

Osteochondritis of the tarsal scaphoid (Koehler's disease) occurs in children from two and a half to ten years of age. However, fully 60 per cent of children with the condition are between five and six years old. Swelling and tenderness are present over the bone and there is pain on weight bearing. As the scaphoid is the last bone in the foot to ossify, it is more susceptible to trauma than the other bones. The symptoms of osteochondritis of the tarsal scaphoid may be present for three years. The treatment indicated for the condition is immobilization in a cast with the foot in slight supination and protection from weight-bearing until the roentgenogram shows the bone structure to be normal. The condition may occur in adults. The author reports five such cases and attributes the condition to trauma.

In the wrist, Kienboeck's disease of the semilunar bone and Preiser's disease of the scaphoid bone are usually the result of injury. The patient appears to recover from the trauma, but pain and disability develop later. The semilunar bone is involved much more frequently in men than in women. The wrist should be immobilized in hyperextension until the roentgenogram shows regeneration of the bone.

Osteochondritis dissecans occurs usually in the knee joint in persons between sixteenth and twenty-fifth years of age. It causes the separation of small pieces of cartilage and superficial bone with the formation of loose bodies. Removal of the loose bodies by operation is usually necessary to relieve the symptoms.

Osgood-Schlatter's disease of the tibial tubercle occurs usually between the thirteenth and fifteenth years of age and almost always in boys. Sudden, violent contraction of the quadriceps muscle may tear the tubercle from its bed. In chronic cases there is tenderness over the tubercle on pressure and on extreme flexion of the knee. In this location the clinical symptoms are more definite than the roent-

gen findings. The knee is best treated by immobilization for from six to eight weeks.

Kuemmell's disease of the vertebral bodies is usually related to trauma. The roentgenogram taken immediately after the injury will be negative, but the roentgenogram taken after two or three months will show an osteoporosis and more or less compression of one or more of the vertebral bodies. The symptoms will suggest tuberculosis, but this disease can be ruled out by the roentgen findings. The patient should be kept recumbent on a hyperextension frame for from three to six months.

WILLIAM ARTHUR CLARK, M.D.

Putti, V., and Casuccio, C.: *Joint Thermometry* (Saggi di termometria articolare). *Chir. di organi di movimento*, 1934, 19: 417.

By "joint thermometry" the authors mean the measurement of the temperature of the skin over a joint. Bier called attention to the fact that there is a rise of temperature in the skin over a deep inflammation and reported that whenever much bleeding occurred from an abdominal incision he always found a focus of deep inflammation beneath the hyperemic skin area.

The authors point out the difficulties in making accurate determinations of the temperature of the skin over joints and describes a method for determining the temperature of the entire joint surface at once. They present the results of the use of this method in a large number of joint diseases.

They found that in all acute diseases of the joints, tuberculosis, tumor, and juxta-articular osteomyelitis there was a rise of temperature which differed in degree depending on the nature of the disease and its localization. In non-tuberculous arthritis, such as infectious, syphilitic, and rheumatic arthritis, the rise of temperature was less than in the tuberculous forms. The average rise was 0.96 degree, but most of the cases of arthritis were in the sub-acute stage. Acute cases rarely come to the Putti Clinic. In post-traumatic arthritis the rise averaged 2.02 degrees, but the temperature varied greatly in the different phases of the disease. In osteomyelitis the average rise was 0.7 degree and extended a considerable distance from the focus of inflammation. Of three bone cysts, one showed a rise of 1 degree, one a rise of 0.7 degree, and one no rise. In a case of tumor, the first determination showed a rise of 0.53 degree and a determination made eight months later after the tumor had undergone malignant degeneration, a rise of 1.2 degrees. In tuberculosis, the average rise in the cases of patients under eighteen years of age was 1.00 degrees, and in the cases of patients over that age 1.50 degrees. In individual cases there were rises of 3 or 4 degrees.

The authors state that the determination of the local temperature of a joint is of great value both in diagnosis and prognosis. A local temperature curve should be made as well as a general temperature curve. The local rise of temperature persists long after the general fever has fallen.

In a number of the cases studied by the authors the deep temperature of the joints was measured with Zondek's deep thermometer. This temperature was found to be several degrees higher than the surface temperature. ADOLPH LOPEZ M.D.

Kapo I. J. An Evaluation of the Roentgen Findings in Gonorrheal Arthritis. *Am J Roentgenol* 1935 33 359

To determine whether there are any roentgen signs characteristic of gonorrheal arthritis the author made a careful study of twenty seven cases in which that condition was apparently present and compared the findings with those in arthritic conditions due to causes other than gonococcal infection. A brief discussion of the etiology, clinical features and pathology of gonorrheal arthritis precedes the consideration of the roentgenographic evidence.

The diagnosis of gonorrheal arthritis from the roentgenogram without the aid of clinical and pathological data is usually difficult. The extent of the joint involvement may be demonstrated but the changes may resemble those due to other conditions. The author cites observations made by numerous other investigators, some of whom deny that definite characteristic features are presented by gonorrheal arthritis and others of whom believe that certain findings such as osteoporosis are significant.

The twenty seven cases of presumed gonorrheal arthritis studied by Kapo are reported in detail with regard to the patients' age, color and sex, the clinical evidences of gonorrhea, the site and duration of the arthritis and the roentgen findings and are compared with six of non gonorrheal arthritis. The case histories are supplemented with numerous roentgenograms.

The roentgen findings in the cases of presumed gonorrheal arthritis varied from simple swelling of the soft parts to diffuse bony ankylosis and presented no features essentially specific. However, the author concludes that the discovery of honeycombed osteoporosis, spotty ground glass atrophy or calcaneal exostoses should create a strong suspicion of gonococcal disease. In the presence of such findings the suspicion of gonococcal infection should be confirmed clinically before a final diagnosis is made. In all cases of arthritis developing between the ages of fifteen and thirty years a careful search for present or past neisserian infection should be made.

In conclusion Kapo says that while there are no specific roentgen signs pathognomonic of gonorrheal arthritis the roentgenogram may render valuable aid in the clinical diagnosis of that condition.

ADOLPH HARTUNG M.D.

Lenti P. Chronic Syphilitic Arthritis (Artritis cronica sifilica). *Chir d'organi di movimento* 1934 19 405

Four cases of chronic syphilitic arthritis are reported with roentgenograms and photomicrographs.

The first case was that of a child five years of age who presented a series of congenital syphilitic bone

and joint lesions. The diaphyses of the tibiae presented ivory like hyperostoses while the epiphyses and heads of the femora presented osteochondroses showing alternating dense and clear areas in the roentgenogram. There were changes in the epiphyseal lines of ossifications of the tibiae corresponding to the second and third degrees of Wegner's classification. The tibiae were curved to an extent which interfered seriously with walking. Although specific treatment had been begun at the age of eighteen months it had not checked the development of the bone lesions. The curvature of the tibiae was corrected by surgical operation but there is still a marked varus of the femora. The lesions in this case were chiefly osteochondritic whereas in the three other cases they were chiefly synovial.

The second case was one of acquired syphilis in a man thirty nine years of age. The patient had acquired syphilis at the age of twenty years and had been given specific treatment with bismuth and neosalvarsan. Hydrops of the knee joints developed at the age of twenty nine. Numerous punctures were made and sodium salicylate was injected into the joints without effect. The wearing of a plaster cast for six months had had only a slight effect. When the patient was admitted to the author's clinic the joints were enormously swollen and their movements very much limited. The Wassermann reaction was positive in the blood and in the joint fluid removed by puncture. Intensive antisyphilitic treatment resulted in some improvement but six months later the patient returned on account of aggravation of the condition. When the joint capsule was opened the synovia was found extremely vascular, velvety and the color of red wine. The joint surfaces were apparently intact. The patient refused synovectomy. His condition is now stationary and he returns for evacuation of the fluid every two or three months. The Wassermann has become negative in the blood but is still positive in the joint fluid. Mobility is relatively good though flexion is limited to a right angle.

The third case was one of chronic syphilitic arthritis in a boy fifteen years old, a manifestation of late congenital syphilis. The patient had suffered a slight trauma which caused swelling of the knee joint. Intensive specific treatment was followed by considerable functional improvement but not an anatomical cure.

The fourth case was that of a boy twelve years of age who had had early syphilis that resisted special treatment. Effusion into the joints began at the age of two years. First the fingers were affected then the wrists and finally the knee joints. When the patient was first seen by the author the knee joints were enormously swollen and fluctuating. Synovectomy was performed and after two months practically normal function was restored. As histological examination showed that only the synovial membrane was affected and the joint cartilage was normal, the author believes the cure may be permanent.

Differential diagnosis is almost impossible in chronic syphilitic arthritis. Gonorrheal arthritis can be excluded quite easily, but it is very difficult to exclude tuberculosis and practically impossible to exclude chronic articular rheumatism. Even the therapeutic test is not absolute as specific treatment often gives good results in non-syphilitic cases and the salicylates often fail even in rheumatic cases. Long and patient observation and close co-operation between the physician, surgeon, and pathologist are essential. Rarely, typical gummas are found, and in some cases milium gummas.

AUDREY GOSS MORGAN, M.D.

Hultén, O.: The Development and Treatment of Malacia of the Lunate Bone—Kienboeck's Disease (Ueber die Entstehung und Behandlung der Lunatummalazie—Morbus Kienboeck). *Acta chirurg Scand*, 1935, 76: 121.

The author regards so-called malacia of the lunate bone as a primary fracture although its occurrence and further development have a special character because of the special anatomical conditions of the lunate bone.

As most of the lunate bone is covered with cartilage and only a small part with periosteum, sensitivity of the bone to pain is very slight. It is especially slight in the proximal part where the earliest changes of Kienboeck's disease are found. Therefore the pain of a compression fracture may be so slight that the patient will not remember the trauma. As the result of continued demands made upon the wrist and the poor regenerative power of the lunate bone, there occurs a slowly progressing degenerative process which becomes noticed only gradually.

Of importance in the occurrence of a fracture is the fact that the proximal articular surface of the lunate bone articulates with two bones, the radius and the ulna, which are covered with cartilage of different consistency. Wrists in which the ulna is shorter than the radius are predisposed to malacia of the lunate bone.

In early cases of Kienboeck's disease with slight changes it may be sufficient to treat the wrist with rest. Under such treatment the process may become healed although the deformity of the bone persists. The period of fixation must be a long one. The author recommends immobilization for at least four months. In old cases with severe changes and continuous pain, the lunate bone must be extirpated.

The problem of compensation is unfavorable for the patient because, the pain and functional disturbances immediately after the injury having been insignificant, he is usually unable to remember the accident.

Calchi Novati, G., and Cossali, C.: A Characteristic Change in the Fingers of Milkers (Di una caratteristica alterazione delle dita delle mani nei mungitori). *Radiol med.*, 1935, 22: 27.

The authors describe a form of occupational deformity of the fingers noted in twelve professional

milkers. This deformity is usually localized to the distal interphalangeal articulation of the index and middle fingers. Sometimes the thumb is involved. Changes in the little finger are rare.

During the early stage there may be no objective signs of the changes or a slight enlargement of the distal articulation of the second or third finger or both. The enlargement is seen especially on the dorsal and ulnar sides of the articulation. The affected portion is deviated slightly down and inward. Roentgen examination discloses a swelling of the soft parts of the affected regions which is most marked on the ulnar side. During the transition from the first to the second stage the joint space becomes decreased, the joint surface becomes enlarged, and the roentgenogram shows osteophyte formation which is most marked in the lateral parts of the articular capsule. The condition resembles a chronic deforming arthrosis.

In the second stage all of the signs become more marked and the deformity is clearly evident. The joint is considerably enlarged, the deformed phalanx is bent toward the palm and radially, there is no active or passive movement toward extension, and flexion is limited.

It is noteworthy that the lesion develops very slowly. In two of the authors' patients who had worked as milkers for thirty-five and twenty-six years respectively and who showed no evidence of thumb involvement the lesion resembled a chronic deforming arthrosis with subluxation and osteophyte formation. These changes are not associated with pain in either the early or advanced stages. In this form of arthrosis the changes occur first in the soft parts and later in the bone, whereas in true arthritis and arthrosis pain is always present, the joint surfaces are involved first, and the more superficial tissues become involved later.

In the authors' cases examination of the rest of the skeleton failed to disclose any other lesions or any infective diathesis. The only apparent cause of the condition was the occupational trauma.

CLARA RAVEN

Buckley, C. W.: Fibrositis, Lumbago, and Sciatica. *Practitioner*, 1935, 134: 129.

Fibrositis, as defined by Gowers, is an inflammation of the superficial fascia, fascial planes, aponeuroses, tendons, and ligaments, tendon sheaths, bursae, and nerve sheaths. It may be produced by acute or chronic trauma, toxins of metabolic or bacterial origin, or bacterial infection. While in a large proportion of cases lumbago and sciatica are due to fibrositis, they are dealt with separately in this article on account of the importance of other causes.

The first symptoms of fibrositis are pain and stiffness. Later, small, palpable, tender nodules of induration may be found. In the subcutaneous forms the skin is adherent and cannot be picked up in a fold. The pain is produced by tension within the tightly bound tissues. Another cause of symptoms

is the pressure of swollen fibrous tissue around nerve trunks and nerve roots. Intermuscular forms of fibrositis are common following exercise by the subject when not in condition and are more persistent in older than in younger persons. For involvement of the arm, which is commonly called neuritis the term brachialgia would be better. The increase in the symptoms during work with the arm extended is explained by pressure on the brachial plexus due to compression by the contracted shoulder and neck muscles. Fibrositis of the pectoral and chest muscles may suggest angina pectoris and pleurisy respectively. In the palm of the hand fibrositis results in Dupuytren's contracture. In the sole of the foot its symptoms are those of arch strain.

The treatment should consist in the removal of foci of infection and regulation of the diet to facilitate digestion and elimination. Colonic lavage may be necessary if constipation is severe. The diet should be low in carbohydrates and yield an abundance of fluids. For the subcutaneous form of fibrositis baths with common soda or Epsom salts are beneficial. Massage should be very light. Complete or partial immobilization may be required when a shoulder or other deep joint is involved. If there is fever rest in bed will insure a more rapid recovery. In the intercostal type of fibrositis adhesive strapping with the use of belladonna, wintergreen or menthol will decrease the discomfort. In acute cases heat may be applied in various ways such as by hot baths, poultices, paraffin bath, dry baking, infrared irradiation and diathermy. Free perspiration and reddening of the skin should be obtained. In chronic forms the application of heat should be only preliminary to massage and cataphoresis. Massage should be applied chiefly over the muscles. It should be avoided over joints and used with care over nerve trunks. In the author's opinion vaccines are of no value but the protein shock from injections of sterile milk is sometimes beneficial. The use of sulphur for rheumatism has been popular for generations. Sulphur may be given combined with milk in the form of pyrolactin. It is possible that the value of onions and garlic is due to their sulphur content.

Lumbago is usually more than a simple fibrositis. It may be associated with abnormality of the vertebral or joints, visceral disorders, postural defects, tuberculous arthritis or a localization of toxins from a septic tooth, the tonsil or the gall bladder. Trauma may also be an important factor. The strain of a chronic flat foot may be transmitted to the lumbar muscles. A good way to differentiate between sacro iliac strain and lumbago is to compare the amount of flexion of the spine in the standing and sitting positions. In the former condition the degree of flexion is greater in the sitting position because of the release of the hamstrings whereas in the latter condition there is no difference or the flexion may be greater in the standing position. With the patient lying on his back flexion of the hip with the knee straight will be painful and probably will stop at

about 140 degrees if the sacro iliac joints are involved. This is due to spasm of the hamstrings. Unilateral pain in the lower back is diagnostic of a sacro iliac lesion. If the pain is felt in the mid thigh the symptoms are probably due to neuritis of the sciatic trunk. Ankylosing spondylitis and osteoarthritis are readily diagnosed by roentgen examination. Leriche has demonstrated that the articular ligaments are richly supplied with sensory nerves which explains why the subjective symptoms are often much more marked than the objective findings.

The treatment of lumbago in the acute stage requires absolute rest. All the procedures described for deep fibrositis are efficacious. Correction of postural defects and injurious habits of occupation is essential.

Sciatica in its chronic form is due in most cases to some disorder in the lumbosacral region. As a rule the symptoms are in an area corresponding to the distribution of the fifth lumbar nerve. One branch of this nerve passes through the smallest of the bony foramina to unite with the great sciatic trunk. Slight congestion around this foramen will cause pressure on the nerve root. Sacro iliac strain almost always gives rise to sciatic pain probably because the fibrositis set up around the joint extends to the nerve trunk which passes over it. In true neuritis there is tenderness on pressure over the nerve trunk and the Achilles jerk is lost. Fibrositis of the gluteal muscles will cause a secondary sciatica.

In the treatment of sciatica rest and analgesic drugs are most important. If nerve pressure due to displacement is suspected manipulation may be effective after the congestion has been reduced by heat and massage. In some cases the injection of novocain in normal salt solution is indicated. From 20 to 100 c cm should be injected into the nerve sheath at the gluteal fold. In obstinate cases it may be necessary to resort to surgery such as fusion of the sacro iliac joint or stripping of the posterior sacro iliac ligaments and gluteal attachments from the bone.

WILLIAM ARTHUR CLARK M.D.

Miller L. F. and Miller L. J. Pellegrini Stieda Disease. *Am J Roentgenol* 1935 33 383

In cases of Pellegrini Stieda disease there is a typical history of trauma to the knee joint of a type which tends to cause internal derangement of the joint. The pain is slight but disabling. There is no history of locking or limitation of motion but the patient experiences difficulty in going upstairs. Examination reveals an area of tenderness over the internal condyle of the femur. The range of motion may be limited because of pain. Swelling may or may not be present but in most cases palpation discloses a firm mass over the internal condyle which is not attached to the skin. This mass appears from one to two months after the injury and can be seen on roentgen examination.

In 1905 Pellegrini published a complete report of paracondyloid ossification following an injury to the knee joint. He believed that two factors play a role

in its production, one, a periosteal proliferation directly connected with the medial femoral condyle, and the other an osseous metaplasia of the ligaments. In 1908, Stieda reported on the pathogenesis of this lesion. He concluded that it is always associated with a fracture of the medial epicondyle of the femur and tearing of the muscle attachments. In 1913, Ewald advanced the theory that an extravasation of blood and synovial fluid occurs into the internal lateral ligament and ultimately leads to calcification. In 1923, Schueller and Weil claimed that the contusion produces a metaplasia of the connective tissue. In 1933, Freund published an excellent pathological description in which he stated that there were three different types of bone growth: (1) a primitive infiltrative bone growth on the basis of connective tissue, (2) bone formation which is similar to callus formation, and (3) an endochondral formation of bone.

There seems to be general agreement that this mass is of traumatic origin. A so-called strain or tear of the internal lateral ligament may be the primary factor. It is generally accepted that, under certain stimuli, connective tissue may assume embryonal appearances and form bone by metaplasia. According to the roentgenograms, the mass is parosteal and produced by a metaplasia of the internal lateral ligament of the knee joint. The condition may be related to myositis ossificans. Kulowski has shown such a relationship to be highly probable.

The authors believe that the occurrence of a fracture is not essential for the production of ossification of the internal lateral ligament. In support of this opinion they cite two cases.

NORMAN C. BULLOCK, M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Tománek, F.: *The Recognition and Treatment of Bone Sarcoma* (Erfennung und Behandlung des Knochensarkoms). *Rozhl. Chir. a Gynaek. Č. chir.*, 1934, 13, 134.

To clarify the problem of primary bone tumors American surgeons have classified such tumors as follows: (1) periosteal fibrosarcomas, (2) benign and malignant osteogenic tumors, (3) benign giant-cell tumors, (4) benign and malignant angiomas, (5) Ewing's sarcomas, and (6) myelomas. The giant-cell tumor is separated from the sarcoma group, just as Ewing's tumor was separated from the osteogenic sarcomas, because it differs in its clinical aspects and its response to therapy.

Osteogenic sarcomas are the bone sarcomas which arise from bone cells. Connective, cartilaginous, osteoid, or bone tissue may be formed. The formation of bone is a higher property of the tumor cells. These osteosarcomas are the most common. They constitute 50 per cent of all bone tumors and 80 per cent of malignant bone tumors. In 72 per cent of the cases they occur in the lower extremities, almost always in the metaphysis. In 52 per cent they occur

in the femur and in 20 per cent in the tibia. They are never found in the distal third of the tibia or radius. They occur in the humerus in only 9 per cent of cases, usually near the attachment of the deltoid. They always give rise to metastases in the lungs. They never grow through the articular cartilage, hence movement of the joint remains good. Osteosarcomas may be osteoblastic and osteolytic.

On the basis of their histogenesis Geschickter divides osteosarcomas into two groups: (1) cartilaginous sarcomas, and (2) fibro-osseous sarcomas. Phemister's chondrosarcomas and chondromyxosarcomas arise from the precartilaginous connective tissue and are primary and secondary. The primary are of the periosteal type and very malignant. They appear between the fourteenth and twenty-fifth years of age and cause death within fourteen months. The secondary chondromyxosarcomas occur after the thirtieth year of age in persons with some kind of benign bone disease (exostosis, chondroma) which has undergone malignant degeneration. The subjective symptoms require from five to twenty-five years to develop. The tumor grows slowly and becomes large. It metastasizes slowly, but recurs immediately when removed incompletely. The cartilaginous tumor of the small bones of the hand and foot (with the exception of the os calcis) are benign, but chondromas of the long bones, the spine, and the pelvis are always malignant sarcomas when the symptoms increase. Chondroblastic sarcomas arise from the cells of the epiphyseal cartilage. They are rare and very malignant. They occur usually between the fourteenth and nineteenth years of age in the distal end of the femur and the proximal end of the tibia and humerus. Fibro-osseous osteosarcomas are central and periosteal. Those of the central type arise usually in the spongiosa of the long bones and are osteolytic. As a rule they occur in the distal end of the femur and the proximal end of the tibia between the tenth and twentieth years of age. The temperature is elevated and there is a leucocytosis. Sclerotic periosteal sarcomas arise from the osteogenic layers of the periosteum and are osteolytic. They occur between the tenth and twenty-fifth years of age. Eighty per cent involve the distal end of the femur and the proximal end of the tibia. Pathological fractures are rare. The roentgen picture is typical.

Sarcomatous degeneration in Paget's disease occurs between the sixty-fifth and seventieth years of age. Osteitis fibrosa and bone tuberculosis also may undergo sarcomatous degeneration after roentgen therapy.

The sarcomas which arise in the neighborhood of bone produce symptoms similar to those of osteogenic sarcomas. They develop from the external layers of the periosteum, the fasciae, nerves, and vessels. When the tumor grows into the bone, it appears on clinical and roentgenological examination to have had its origin in the bone. Periosteal fibrosarcoma arises from non-specific tissue and is not able to form bone. It remains long unencapsulated

In enlarging it displaces the neighboring soft tissues. Unlike the osteosarcoma it does not grow into the musculature. Its usual sites are the proximal end of the tibia and the distal end of the femur. It grows very slowly over a period of three or four years. It is not distributed evenly around the bone, but grows as a mass on one side. In the treatment of osteosarcoma amputation and di-articulation are to be considered. Only in cases of secondary chondromyxosarcomas is radical resection and radium or roentgen treatment possible. In case of recurrence amputation is necessary. Cure of osteosarcoma by irradiation is very rare. It has been known to occur only in children and in these cases the diagnosis has not always been certain. Amputation is necessary immediately. Therefore it is improper to waste time on prophylactic irradiations. Some parts of the osteosarcoma may respond to irradiation but as the composition of the tumor is not uniform healing of the entire tumor cannot be expected. Because of the radiosensitivity of some portions prophylactic irradiation after amputation is generally believed to be necessary. Amputation must be performed also for fibrosarcoma of the soft parts. Cure has never been obtained without it. Neurosarcomas are very malignant. In cases of periosteal fibrosarcoma thorough excision and irradiation may be tried. If recurrence appears amputation should be done at once.

Ewing's sarcoma in contrast to osteosarcoma occurs in the smaller bones of the extremities and skull and in the diaphysis of the long bones. As a rule it appears at multiple sites. It occurs most frequently in children between five and fifteen years old. In the beginning the pain is intermittent but later becomes constant. The first attack of pain is accompanied by fever. Seventy five per cent of the cases of Ewing's sarcoma are those of males. The tumor is radiosensitive and is the only one of the bone sarcomas for which operation can be replaced by irradiation. Amputation is not to be considered since it cannot prevent the appearance of the disease at other sites.

The giant cell tumor forms stroma and giant cells with granules regularly distributed in the center. The designation 'tumor' is justified only in the clinical sense. From the pathologico-anatomical standpoint it is not a true blastoma. It arises in the epiphysis of the long bones and is only half the thickness of the osteosarcoma. It occurs more often in women than in men and is most frequent between the sixteenth and twenty fifth years of age. It occurs in the lower extremities twice as often as in the upper. In the upper extremities the bone most often involved is the radius. The tumor usually occurs in the distal half of the radius. The femur is involved in 57 per cent of the cases. The giant cell tumor grows very slowly and never grows into muscle. It usually causes pathological fractures. Although it is highly radio-sensitive the author recommends operative therapy. As recurrences are frequent postoperative prophylactic irradiation is

advisable. In view of the uncertainty of the histological diagnosis, operative treatment is to be preferred to irradiation except in cases in which the entire tumor cannot be separated. The possibility of sarcomatous degeneration must be borne in mind.

Osteitis fibrosa is a benign process of regenerative and resorptive character in which the spongiosa is transformed into connective tissue. The bone becomes thin and resorbed and is replaced by porous bone which is often devoid of calcium. The disease develops very slowly and pain is slight or absent. As in Paget's disease, sarcomatous degeneration is not rare. The treatment is surgical (excision).

Bone cysts represent attempts at healing in disease processes of unknown cause.

Myeloma attacks regularly the middle of the long bones and the smaller bones. The destruction is very rapid. The tumor is most frequent in men between the ages of forty and sixty years. Its onset is accompanied by pain and fever. The spleen is enlarged and the bones soon fracture. The treatment is irradiation. Biopsy and pathologico-anatomical diagnosis is very difficult in bone sarcomas if only for the reason that the findings may be quite different even in two parts of the tumor close together. Hence excision from a number of areas and particularly from the center of the tumor is necessary. Excision from the surface of a sarcoma leads to the diagnosis of giant cell tumor or osteitis fibrosa. The finding of osteitis fibrosa in one area is not sufficient for the diagnosis. The histological picture must agree with the roentgen and clinical findings. Biopsy is not without danger in osteosarcomas.

Prophylactic irradiation of osteosarcomas only postpones amputation. Osteosarcoma cannot be cured by irradiation because only some portions of it are radiosensitive. When after the irradiation the non-specific and for the most part giant cell infiltrate disappears and the circumference of the tumor and the symptoms decrease there is danger that false hopes on the part of the patient and his family may lead to postponement of the operation, the only means by which life can be saved. On the other hand irradiation is indicated for Ewing's sarcoma and the giant cell tumor and is justified for inoperable sarcomas. Roentgenological diagnosis is very important and should be made by a roentgenologist. The findings in a biopsy specimen are not absolutely reliable as they are for instance in the epithelial tumors. The history and the clinical and roentgenological findings are more important than the histological findings.

(VOLLER) FLORENCE ANNAN CARPENTER

Diaz G. Resection Arthrodesis as a Method of Treating Tuberculous Coxitis in the Adult (Die Resektionsarthrodesis als Behandlungsmethode der tuberkulösen Coxitis beim Erwachsenen). *Zschr. f. orthop. Chir.* 1914. 32

Since as a rule tuberculosis has its origin in childhood the adult has usually developed good powers of resistance to it which prevent dissemination of

the condition. However, we have as yet no certain method of recognizing inadequate defense due to allergic regression, which renders a case of tuberculous coxitis unsuitable for surgical treatment, or of distinguishing chronic cases in the stage of clinical latency, which are favorable for operation.

As a rapid and effective treatment of coxitis in the stage of evolution, operation is often preferable for social and economic reasons to the tedious and expensive conservative method of treatment. Since ankylosing operations, which may suffice in childhood to supplement conservative therapy, do not assure complete anatomical healing, they can be regarded only as auxiliary operations, and radical removal of the focus must take their place.

Loose joint formation is most effectively corrected by resection combined with arthrodesis. Of great importance in this procedure are decapitation and extensive resection of the neck which alone permit thorough removal of the acetabular focus and excision of the posterior capsulovenous membrane. For the arthrodesis the author performs an iliofemoroplasty (deflection of a pedunculated bone flap from the sacral hollow of the pelvis) by Wilson's method, which is made much easier by approximating the trochanter major to the sacral hollow of the pelvis after the described resection has been carried out. Of five patients thus treated, ankylosis was complete in three after a year. In the cases of the two others the operation was performed too recently for the result to be known. In three cases primary healing occurred, and in two cases a fistula formed. In one of the latter the fistula persisted for three months. In the other it is not yet quite healed at the end of four months. Arthrodesis resection is indicated also in cases with fistula in which secondary infection has not occurred.

When operation is necessary in the early stages of tuberculous coxitis, the simple para-articular arthrodesis, such as that performed on children should be done, but the surgeon must be certain that there is no tuberculous focus in the operative field.

(SIEVERS) FLORENCE ANNAN CARPENTER

FRACTURES AND DISLOCATIONS

Lévine, M. M.: On the Question of the Reaction of Bony Tissue to the Introduction of Steel, One of the Causes of Complications of Osteosynthesis (Sur la question de la réaction des tissus osseux à l'introduction de l'acier, une des causes des complications de l'ostéosynthèse). *Lyon chir.*, 1935, 32: 11.

The fixation of bone fragments by metal plates, proposed by Lane, Lambotte, and Tuffier toward the end of the nineteenth century, is becoming more widely accepted in spite of the early opposition to it. The author reviews briefly the opinions expressed by various writers on the subject and the results obtained by the method. In the Traumatic Institute at Leningrad there were 7 cases of osteosynthesis in the period from 1906 to 1927, 25 cases in the period from 1917 to 1924 and 120 cases of open operation

with bone fixation for ununited fractures, in the period from 1925 to December 25, 1931. Of 30 patients traced for from one to eight years, the results were good in 18, satisfactory in 10, and insufficient in 2. At the last Congress of Surgeons in the Ukraine, which was held in September, 1930, it was noted that there was an increasing tendency to use this method in the treatment of fractures. It was also noted that on the removal of Lane plates after such an operation an inflammatory reaction was found in the surrounding tissues. It was therefore felt important to discover a metal which would produce a minimal reaction in the tissue and be satisfactory for fixation material. In a review of the literature, Lévine found 4 articles on the subject—1 by Ziroid, 1 by Ivato Killomi, and 2 by Vassiliew—all of which were based on investigations of a large number of metals. Because of the wide use of Lane plates and the possibility of various tissue reactions to different types of steel, Lévine undertook the following experiment in an endeavor to discover the steel made in U.S.S.R. which could best be utilized as fixation material in bone operations.

Twenty-five dogs were used. Ten were under observation for five days and 15 for a month. Nine varieties of steels differing not only in chemical composition but also in physical preparation (tempering, etc.) and a Lane plate of unknown chemical composition were employed. In the right tibia a small wire or plate measuring 7 by 3 by 2 mm was introduced in a gap made in the cortex communicating with the medullary canal. A similar gap was made in the left tibia for a control. At the conclusion of the experiments the specimens were decalcified, mounted and stained with hematoxylin-eosin, and subjected to microscopic study. The findings are reported in detail. Some of the steels caused considerable inflammatory reaction and seemed to inhibit bone repair, others caused a less marked soft-part reaction, and a third group stimulated the process of bone repair. The steels used are described by number, their composition and preparation not being given. From his observations the author draws the following conclusions:

1. Most steels can influence the regenerative processes of bone in one way or another. Steels Nos. 1 and 7 seemed to delay the formation of bone. Steels Nos. 4, 8, 0, 5, 3 had no apparent influence on the bony repair. Steels Nos. 2 and 6 and the Lane plate of unknown composition activated the formation of bone around the metal.

2. Almost all types of steel cause an inflammatory reaction characterized by the formation, around the metal, of a capsule of cellular tissue containing lymphoid elements. Steels Nos. 1 and 7 provoked the formation of a capsule with a large number of lymphocytes and polymorphonuclear leucocytes. Steels Nos. 4, 8, 0, 5, 3 produced a capsule with fewer lymphoid cells and predominance of fibroblasts.

Lévine states that of all the steels investigated, he recommends Nos. 2 and 6 for use as plates in osteosynthesis.

BABARA B. STIMSON, M.D.

Ottolenghi C E and Lagomarsino F H. Complete Acromioclavicular Dislocation. An Apparatus for Its Non Operative Reduction (*Luxación acromioclavicular completa. Dispositivo para su reducción inoperativa*). *Rev de ortop y traumatol* 1934 4 15

In the usual variety of acromioclavicular dislocation the lateral end of the clavicle is displaced upward or upward and outward. In some cases there is a fracture of the articular edges. The most common cause of the dislocation is a blow on the shoulder. While reduction is easy retention is difficult because the chief element in the dislocation is rupture of the coracoid and trapezoid ligaments.

The authors describe and show by illustrations an ingenious apparatus devised for the treatment of such dislocations. It consists of a well padded long strip of canvas to be placed over the affected shoulder with the center at the reduced joint and then incorporated in a plaster cast of the chest which also includes the arm on the affected side in an adducted position. The article contains roentgenograms made in three cases in which this apparatus was used with successful results. WILLIAM R MEENER M D

Inclán A. Fractures of Monteggia (*Fracturas de Monteggia*). *Ciruj ortop y traumatol* 1934 2 203

The fractures of the upper third of the ulna accompanied by dislocation of the head of the radius which were described by Monteggia in 1814 present a difficult problem. The author discusses the various opinions found in the literature concerning their pathological anatomy and treatment. He believes that because of the tendency of the ulna to angulate and force the head of the radius out of position after reduction the prognosis is more unfavorable the longer the time between the injury and the reduction.

Following a brief discussion of the etiology, pathology, clinical manifestations and differential diagnosis of the fractures, he describes his method of closed reduction by means of an apparatus producing traction and countertraction on the extremity with the forearm supinated and bent at right angles to the arm. If reduction is not obtained or not maintained, open operation with fixation of the fragments by kangaroo tendon or Farham bands is necessary. Inclán has noted a marked tendency toward angulation of the ulna and delay of union. He believes that the repair of old fractures of Monteggia is very difficult. He reports with roentgenograms four cases of recent fractures and five cases of old fractures.

BARBARA B STIMSON M D

Fontaine R and Bauer R. End Results of the Treatment of Fractures of the Upper Extremity of the Radius. Les résultats éloignés du traitement des fractures de l'extrémité supérieure du radius). *J de chir* 1935 45 10

When fractures of the upper extremity of the radius are unrecognized or incorrectly treated they may lead to grave disability of the elbow joint. The

authors present a comprehensive survey of the literature on such fractures describing in considerable detail the various operative and non operative methods of treating them.

They find that conservative treatment consisting of brief immobilization in a splint or sling followed by early active motion, gives the best results in simple fracture of the head comminuted fractures without displacement and fractures of the neck without displacement but is completely inadequate in fractures with gross displacement. For the latter operative treatment is generally used by some immediately and by others after attempts at reduction. Various approaches are described—anterior, anteromedial, external and postero-external. Some surgeons are content to remove the fragment whereas others systematically remove the radial head. Pfah covers the neck stump with fascia lata. In cases of complete fracture of the head most surgeons remove the head but some replace it and suture it in place.

The authors report seven cases in which early open operation was done. Four of the patients were followed for some time. A posterior approach was used. The detached fragments were removed and in three cases the head was resected. Movement was begun from the fourth to the eighth day after the operation. The immediate results were excellent but in three of the four cases followed the end results were not so good. In two of the latter there was limitation of pronation and supination and in one, limitation of extension.

The authors conclude that surgical treatment of fractures of the upper extremity of the radius rarely results in complete restoration of function. Extremity rotation and flexion are somewhat limited. However operative intervention is not to be condemned as the results of non-operative treatment are worse. The authors suggest modification of present methods with possibly more frequent replacement of the fragments when feasible and if removal is necessary the use of Pfah's method of covering the stump with fascia. BARBARA B STIMSON M D

Piccagli G. Early Treatment of Congenital Dislocation of the Hip (Contributo alla cura precoce della lussazione congenita dell'anca). *Chir d'organi di movimento* 1934 19 455

While formerly it was thought advisable to delay the treatment of congenital luxation of the hip until the patient was three or four years of age, the author believes that today with better methods of diagnosis available particularly roentgen examination it is best to begin the treatment in the first few months of life when the plastic and regenerative powers of the tissues are greatest.

Formerly the diagnosis was rarely made before the child was able to walk but now it can be made within the first few months of life. The author describes the clinical and roentgen signs in detail. Before the roentgen era the La Caze Lorenz method of reduction which is described was considered the

treatment of choice, but today a gradual method of abduction without reducing manipulations is used, the head of the femur being brought into the acetabulum gradually and progressively. If this simple method of apposing the joint surfaces is employed before the eighth month of age it may stimulate the plastic forces of the tissues sufficiently to bring about a complete cure. It is seldom followed by recurrence as there is no trauma from reduction and the treatment is given before the development of secondary changes.

The method was introduced by Putti. For a period of months the legs are kept spread apart day and night by means of a wedge-shaped or triangular cushion or splint. Twice a day the cushion or splint is removed for the carrying out of gradual passive movements of abduction and internal rotation. The average time required for the treatment ranges from six to eight months.

Ten cases in which this method was used are reported with roentgenograms. Eight of the patients were girls. The youngest patient was three months old and the oldest fifteen months. The maximum duration of the treatment was nine months, the minimum four months, and the average six months. There were no unfavorable side-effects and no failures. The patients were examined roentgenologically before the treatment, every two months during the treatment, and for varying periods after the treat-

ment had been completed in order to be sure that the dislocation was corrected.

The author believes that early abduction is a great improvement in the non-operative treatment of congenital dislocation of the hip. He summarizes its advantages as follows:

- 1 It acts before the occurrence of secondary changes which are the chief cause of failure.

- 2 It establishes a stimulus to regeneration of the joint heads very early, advantage being taken of the maximum plastic and regenerative capacity of the tissues.

- 3 Anesthesia is unnecessary and the trauma of reduction is avoided.

- 4 The atrophy and functional changes resulting from long immobilization in a plaster cast are avoided.

- 5 The patient's family is saved the anxiety of the long wait between the diagnosis and the beginning of treatment.

In conclusion the author says that an active campaign should be begun to make this very simple and effective method of treatment known to the poorer classes, and when enough material has been collected a statistical study should be made of the incidence of recurrence after this procedure as compared with the incidence of recurrence after the use of the Paci-Lorenz method.

AUDREY GOSS MORGAN, M.D.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Fraser J. *Circulatory Diseases of the Extremities*
Br 1 N 1 1935 40

The group of conditions collectively described as circulatory diseases of the extremities has come within the sphere of surgical attention only within recent years. As is inevitably the case when new fields are entered a variety of conditions differing in their origin and pathology have been treated by operations intended to modify the autonomic innervation. As a result renewed interest has been stimulated in the autonomic nervous system and by detailed, accurate and convincing experiments clinical physiologists have placed our knowledge of the peripheral circulation upon a sure and a scientific basis.

In a review of the anatomy and physiology of the vascular system the author refers to the extremely interesting work of Grant and Bland which demonstrated that direct anastomoses exist between arterioles and venules. These channels of anastomosis occur principally in the palmar skin of the hands and the plantar skin of the feet. Grant found that they are the sites of an unusually profuse distribution of perivascular sympathetic nerve fibers and are particularly responsive to the action of stimuli dilating as a reaction to mechanical stimulation histamine acetylcholine and cold and contracting in the presence of adrenalin. He believes that they are to be regarded as playing an important part in the vascular reactions manifested in the skin of the hands and feet.

The process of vasoconstriction is understood to be in large measure the response to a stimulus conveyed to the blood vessels along the sympathetic nerve fibers. This stimulus may originate in a variety of ways.

The influence inducing vasodilatation is not yet fully known and has been the subject of considerable dispute. There is something to be said in favor of the contention that it is due to an inhibition of the vasoconstrictor impulse. However there is evidence of a particularly convincing character that it occurs in response to a biochemical reaction a stimulus applied to the skin of a degree sufficient to cause the release of a biochemical product called H substance which somewhat resembles histamine and acetylcholine.

The author reports experiments carried out to explain the reactions which appear in a limb when it is subjected to the influence of cold. On the basis of his findings he suggests the following simple classification of vascular diseases of the extremities:

- 2 Arterial diseases (a) spasmodic (b) inflammatory (c) degenerative

In attempting to explain the changes characteristic of capillary diseases Fraser describes the process which he believes occurs in acrocyanosis. He states that in certain individuals the skin areas of the hands and feet are peculiarly sensitive to the effects of cold. Because of this sensitivity a stimulus which would have little or no effect on an ordinary individual induces an increased reflex and at the same time the production of an undue amount of the H substance. The result is a combination of responses—a contraction of the arterioles due to an increase in their tone and at the same time a dilatation of the capillary bed secondary to the effect of the H substance. As a consequence the skin vessels accommodate an increased amount of blood sluggish in its progress and yet capable of accomplishing a gaseous exchange so that it parts with its oxygen and acquires an increased amount of carbon dioxide. These changes probably explain the cold blue hands. Their basis is a skin which is unduly sensitive to the influence of cold. In erythromelalgia there is a further degree of the same reaction. Besides protection of the part from cold the only treatment suggested by the author is the intravenous injection of colloidal sulphur in amounts of from 2 to 5 ccm.

Raynaud's disease may be regarded as a typical example of the spasmodic type of arterial disease. The pathological changes underlying the lesion appear to be of the nature of an intense constrictor response in the smaller arteries principally at the point where the arteriole distribution begins. In the early blanched phase the degree of spasm is so intense that the blood supply of the periphery appears to be entirely arrested. The factors responsible for the various reactions in this type of vascular disease are extremely difficult to determine. An undue degree of vasospasm may be attributed to an exaggerated stimulus transmitted by the vasoconstrictor fibers of the sympathetics. On the other hand the cause may be a fault in the vessel wall such that a stimulus of normal strength induces a reaction out of all proportion to the impulse which instituted it. Certainly irritation or injury of the skin is a factor in one stage of the disease but the part which it plays is probably secondary to a more primary error. The author believes that the ultimate solution will be found in the combination of circumstances an abnormal degree of tone in the smaller arteries and an unduly sensitive condition of the skin. According to his experience sympathectomy does not result in a permanent cure of the disease but renders the attacks less frequent and less severe seems to prevent superficial gangrene, and alleviates the pain.

- 1 Capillary diseases (1) acrocyanosis (b) erythromelalgia

Thrombo-angitis obliterans, an example of the inflammatory type of arterial disease, has a curiously phasic character. While the exact nature of its cause has not been discovered, the evidence indicates that the changes are produced by a toxin circulating in the blood stream and affecting primarily the internal coat of the vessel. In the degenerative types represented by arteriosclerosis, the tissue change is permanent and irremediable although some measure of vasospasm accompanies the early stages of the disease. A spasmodic element may be so definite in some cases, both of the inflammatory and the degenerative types, as to lead to difficulty in the diagnosis. It is obligatory to employ some of the various tests to secure vasodilatation before proceeding with treatment.

In the inflammatory and degenerative obliterative types the results of treatment have been discouraging. Sympathectomy has failed to yield the results hoped for, but in many instances renders the patient more comfortable and probably delays the onset of skin ulceration and gangrene. The results claimed for alternate suction and pressure appear promising, but the author states that he has had no experience with this type of treatment.

HERBERT F. THURSTON, M.D.

Landis, E. M., and Hitzrot, L. H.: The Clinical Value of Alternate Suction and Pressure in the Treatment of Advanced Peripheral Vascular Disease. *Am J. M. Sc.*, 1935, 189, 305

From the standpoint of treatment, cases of peripheral vascular disease may be divided into two groups: (1) those in which the symptoms are due to simple spasm with slight or no organic vascular obstruction, and (2) those in which the symptoms are due primarily to advanced organic disease of the arteries. The symptoms in the first group can usually be alleviated by producing vasodilatation with drugs, diathermy, contrast baths, heat applied locally with the warm cradle, or sympathetic ganglionectomy. In cases of the second group the walls of the arteries become thickened and are more or less rigid. The lumina are not only smaller, but unable to dilate even when the vasoconstrictor tone is abolished. Eventually most patients with advanced organic disease of the arteries suffer from trophic changes, ulceration, and gangrene which ultimately necessitate amputation. Often they present a difficult therapeutic problem to both the clinician and the surgeon.

The authors report detailed studies of twenty-nine cases of advanced peripheral vascular disease of the extremities. The patients had shown little progress under the usual conservative treatment, including local warm applications, the warm cradle, antiseptics, vasodilator drugs, and nerve section. In the series of treatments reported the extremities were exposed to alternate suction (-80 to -120 mm Hg) and pressure ($+40$ to $+80$ mm Hg) for twenty-five and five seconds respectively. The pressure variations were used in periods of from one

to two hours, at first once or twice daily, then three times weekly, and finally, when the symptoms diminished, once weekly.

In summarizing their results the authors state that cyanosis usually diminished, but symptomatic improvement was sometimes observed without a significant change in the color of the skin. The rest pain of ischemia was usually abolished during the use of the suction and pressure and gradually became less severe in the intervals between the exposures to pressure variations. Lasting relief of the pain was not obtained in the presence of deeply extending gangrene or large sloughs. Ulcers usually began to heal soon after the suction and pressure therapy was instituted. Intermittent claudication became, in general, milder, and exercise tolerance was slightly, but definitely increased. In the cases of patients with osteomyelitis, deeply extending gangrene, or large sloughs, the suction and pressure therapy was of no definite lasting benefit.

The authors are of the opinion that this form of therapy must be applied with caution and with at first small pressure changes. Before its use, the presence of acute spreading infection and encapsulated pus must be definitely ruled out.

In conclusion they state that suction and pressure therapy, carefully applied, appears to be worthy of a clinical trial in the treatment of peripheral vascular disease even when organic obstruction has advanced to the point where the arterial blood flow can no longer be increased by vasodilatation. The method may prove beneficial by increasing the local blood flow temporarily during attacks of pain or ulceration so that time is gained for the development of an adequate collateral blood flow.

HERBERT F. THURSTON, M.D.

Allen, E. V., and Camp, J. D.: Arteriography. A Roentgenographic Study of the Peripheral Arteries of the Living Subject Following Their Injection with a Radiopaque Substance. *J. Am. M. Ass.*, 1935, 104, 618

In the last eighteen months Allen and Camp have performed arteriography in 100 instances. Some of the arteries were normal although arterial disease was suspected. Cases of thrombo-angitis obliterans, arteriosclerosis, arteriovenous fistula, popliteal aneurism, arthritis, scleroderma, Raynaud's disease, and hypertension were studied. The authors conclude from their experience in these cases that roentgenographic visualization of arteries in the living human subject will prove of great value since it is the only direct method of acquiring information regarding the function of specific arteries. They believe that the time is not far distant when it will be possible to visualize roentgenographically most of the arteries of the living human subject. It is well known that accuracy in the diagnosis of diseases and an understanding of the physiology of the digestive, urinary, and biliary tracts received great impetus with the advent of methods for accurate roentgenographic visualization of these tracts. While the authors

doubt that arteriography will prove as valuable. they believe it opens a field for study which doubtless will lead to a marked increase in our knowledge of the pathological and physiological processes in arteries and in the tissues which the arteries supply with blood. They do not regard it of great diagnostic value in cases of thrombo angitis obliterans, aneurism and arteriovenous fistula as careful clinical physiological and pathological studies have proved very satisfactory in these conditions.

The chief value of arteriography lies not in diagnosis but in studies of pathogenesis. The procedure gives information regarding the minutiae of arterial disease which can be secured in no other way. It is to be expected that the absence or presence of organic arterial change in Raynaud's disease and the part played by disturbances of arterial circulation in scleroderma can be determined thereby. In thrombo angitis obliterans the part played by collateral arteries and other adjustments to impaired circulation are portrayed in a manner which leaves little to be desired. The mode of progression of the disease and the compensation for it are clearly outlined. The authors believe that these observations hold true also for thrombo arteriosclerosis obliterans although their experience with arteriography in this condition has been limited. In addition, arteriography permits accurate determination of the situation, extent and nature of aneurisms, arteriovenous fistulae and arterial emboli. Whether or not it will add information of value with regard to the pathogenesis of arthritis, hypertension and other conditions remains to be determined.

Contades A, J. Nauveau J. and Ungar G. *The Vasomotor Action and Dangers of the Contrast Media Used in Arteriography (Experimental Research and Clinical Results) (Sur l'action vasomotrice et les dangers de produits de contraste utilisés en artériographie. Recherches expérimentales et résultats cliniques.) Bull. et mém. Soc. nat. de chir. 1935 61 187*

The experimental work reported was done on dogs and the clinical results were determined by a series of seventy arteriographies.

Lipiodol, strychnium bromide, sodium iodide, abrodil and collothor were abandoned as contrast media. The media employed were thorium dioxide or thorotrast and three organic iodine compounds—uroselectan, perabrodyl and tenebryl. Determinations were made of the histological changes taking place in the arterial walls after contact with the media. The local vasomotor changes and the changes in the arterial and venous blood pressure are shown by kymograph tracings.

After summing up the experimental observations and comparing them with the clinical findings the authors conclude that the organic iodine compounds produce a biphasic reaction—vasoconstriction followed by vasodilatation. They believe that it is the first phase—vasoconstriction—which is responsible for the accidents and dangers of arteriography.

It accounts for the gangrene that is sometimes reported to follow arterial injection. On this basis they have classed tenebryl as unsuitable for use. They believe that none of the contrast media employed at the present time for arteriography is ideal but that thorotrast has the fewest objectionable qualities, particularly as it causes only vasodilatation. The chief objection to it is that it remains more or less permanently fixed in the reticulo-endothelial cells of the liver, spleen, and bone marrow. Another objection is its radio-activity. It should not be used in young subjects or in individuals with a pathological condition of the liver, spleen or blood. Not more than 30 c. cm. should be used and it should not be repeated.

MARSH W. POOLE M.D.

Bazy L. Reboul H. and Racine M. *Observations on the Contrast Media and the Mechanical Factors Used in Arteriography (Précisions sur les solutions de contraste et les facteurs mécaniques utilisés pour l'artériographie.) Bul. et mém. Soc. nat. de chir. 1935 61 198*

The authors believe that organic iodine compounds are preferable to thorotrast because thorotrast becomes fixed in the tissues and is therefore liable to produce changes in the cells of the reticulo-endothelial system and because it retains its radio-active properties for about fifteen years. Inorganic compounds of iodine like sodium iodide are unsuitable because of their irritative properties which lead to sclerosis of the vessels.

According to the authors' experience organic iodine compounds do not produce iodism, sclerosis of veins, pyelo ureteritis or lesions of the vessel walls. The authors prefer using tenebryl because it is most opaque to the X-rays in solutions of relatively low hypertonicity.

They believe that when carried out correctly arteriography is a valuable aid to clinical study.

MARSH W. POOLE M.D.

Fleissinger N. Ravina A. and Messinger R. *Remarks on the Arteritis of Subacute Malignant Endocarditis (Quelques remarques sur les artérites échantantes de l'endocardite maligne lente.) Presse méd. Par. 1935 43 321*

The authors report the case of a man with streptococcal endocarditis who developed a mycotic aneurism of the right ulnar artery. When the patient was admitted to the hospital in May 1934 he gave a history of heart disease and articular pains of twenty years duration. A diagnosis of rheumatic heart disease was made. Salicylate therapy failed. On June 22 a positive blood culture was obtained. The organism was a long hemolytic streptococcus instead of the usual short non hemolytic streptococcus. On June 30 the patient complained of pain in the upper anterior part of the right forearm. There then developed in that region a swelling which gradually increased in size. On July 9 an expansile pulsation of the tumor was noted. On July 12 6 c. cm. of 30 per cent tenebryl were injected into the brachial artery.

and a roentgenogram was made. The radial artery, but not the ulnar nor the interosseous artery, was visualized. When the pulsating mass was explored, serous fluid first emerged, then black blood clots, and finally arterial blood. The wall of the cavity consisted of a friable, greenish membrane, fragments of which were easily detached. The cavity was thought to be an infectious aneurism of the ulnar or interosseous artery. Packing was necessary to control the bleeding, ligation being unsuccessful. The wound healed uneventfully. Histological examination of the fragments of the wall disclosed an inner lining of fibrin and leucocytes in various stages of degeneration, a middle layer of fibrous lamellæ without elastic tissue, and an outer muscular layer infiltrated with leucocytes.

In spite of numerous therapeutic measures, which included vaccinothérapie, serotherapy, immunotransfusion, and intravenous injections, the patient's condition became progressively worse. On August 27 a right hemiplegia developed, and three weeks later the patient died in coma. Permission for autopsy was not obtained.

In the discussion, two theories of the formation of mycotic aneurism are cited. According to one, an infected embolus lodges in a vessel and the wall of the vessel then becomes invaded by the organisms. According to the other, the septicemia results in the formation of a localized arterial lesion analogous to the lesion of the valves of the heart, which is followed by secondary thrombosis with rupture of the wall of the vessel.

In conclusion the authors discuss the difficulty in the differential diagnosis between rheumatic heart disease and bacterial endocarditis and the unusual organism isolated in the case reported.

MAX M. ZINNINGER, M.D.

Schwarz, E : Varicose Veins of the Lower Extremity, with Special Consideration of Their Development and Treatment (*Die Krampfader der unteren Extremität mit besonderer Berücksichtigung ihrer Entstehung und Behandlung*). *Ergebn. d. Chir.*, 1934, 27: 256.

The author discusses the normal and pathological anatomy of the veins of the extremities with special reference to varicose veins. He says that the internal venous pressure depends on the hydrostatic and hydraulic pressure, the state of the contraction tonus, and the elasticity of the vessel walls. The veins are supplied by sympathetic nerve fibers which send very fine branches into the muscularis of the media, but are present also even in vessels without muscle. Insufficiency of the vein walls produced by stretching may be the cause as well as the result of degeneration or atrophy of the wall musculature. The phlebosclerosis of the intima and media, rupture of the elastica, and inflammatory changes are probably only further consequences of the muscle insufficiency. The development of varicose veins is the sequela of processes resulting from congenital or acquired defects and toxic injuries of the sym-

thetic nervous system with an injurious influence on the muscularis of the vein wall supplemented by a mechanical factor. Inflammation is of less significance in the etiology of varices, but in the disturbances which follow it plays a not unimportant rôle. All of the skin changes appearing after the development of varicose veins belong to the congestion dermatoses caused by extension of the process into the small venules of the saphenous veins. Trauma acts only to aggravate a disease already established.

Most of the operative and conservative methods used today in the treatment of varicose veins were conceived and used, although with variable success, in previous centuries. Their full value did not become apparent until after the introduction of asepsis. Of the conservative methods, the most important is the use of compression bandages. The Trendelenburg operation, like all other ligation methods, may be followed by re-canalization of the veins. Of 294 operations performed at the Rostock Clinic by the Trendelenburg, Babcock, Madelung, and Klapp methods, 238 were followed by satisfactory results, 50 by unsatisfactory results, 89 by non-fatal complications, and 6 by death. If manifestations of a proximal extension of the thrombosis in the saphenous vein appear, the vein must be ligated higher up as quickly as possible or the thrombus quickly removed. In several cases in which this was no longer possible, Schwarz ligated the femoral and even the external iliac vein because of the danger of emboli or sepsis. As a result, the slight attacks of embolism and chills, of which there had been several, no longer occurred.

In injection experiments carried out by the author and Ratschow on the veins of the ears of rabbits, thrombosis was produced almost constantly with 60 per cent caloric solution. This was due to damage to the intima. As the thrombi adhered firmly to the vein wall, they were quite different from the coagulation thrombi formed in the course of certain diseases, which are only slightly adherent to the vessel wall. According to other investigators, the risk of emboli after sclerosing injections in clinical cases lies only in the development, in the aseptic venitis, of an infection or the formation of a secondary coagulating thrombus proximal to the injection thrombus. The chief advantages of the injection treatment as compared with operative treatment are the possibility of ambulatory treatment, usually without any interference with the patient's ability to work, the considerably lower mortality (from 0.02 to 3 per cent), the higher incidence of permanent results (from 70 to 100 per cent as compared with from 50 to 60 per cent), and the fact that patients who develop a recurrence are much more easily prevailed upon to submit to another coagulation treatment than to another operation with its discomforts and prolonged disability.

The author has had good results with the treatment recommended by Moskowitz as well as with simple injection of glucose and salt solutions. In the Moskowitz treatment, from 20 to 60 c. cm. of

concentrated glucose solution with 1 drop of adrenalin to each 10 c.c.m. of the solution are injected into the vein from above after ligation of the saphenous vein at its opening, into the femoral vein. The patency of the deep veins must be determined with special care and the amount of fluid to be injected determined carefully according to the extent of the varicose veins. This is necessary to prevent the entrance of too much fluid into the deep channels through the ramus communicantes with consequent serious circulatory disturbances.

When in case of large varicose ulcers of the leg epithelization fails to occur the transplantation of epithelium should be done early, preferably according to the Thiersch-Esser method.

(ZIEGLWALLNER) PHILIP SHAPIRO M.D.

BLOOD TRANSFUSION

Skudina C. and Barenboim S. The Clinical Transfusion of Postmortem Blood (*Transfusion von Leichenblut an Menschen*). *Verhandl. d. 2. Kong. d. Chir. d. U.S.S.R. Moskau 1934 p. 136*

The Wassermann reaction of blood removed from the body within the first six hours after death shows no evidences of non-specific serum agglutination. Postmortem blood is best withdrawn from the internal jugular vein with the cadaver in the Trendelenburg position. The age of the cadaver is of no importance. The largest quantity of blood is obtained in cases of death from angina pectoris or concussion of brain without cerebral sinus injury. Postmortem blood serum is entirely satisfactory for a test serum. Citrated postmortem blood can be preserved on ice for two weeks and when removed under the proper precautions will remain sterile. Postmortem blood is assimilated without complications in the same doses as vital blood and gives equally good clinical results.

In the discussion of this report Rajcopolonik (Charkow) cited 74 blood transfusions which were given in the cases of 7 children from three weeks to two years of age. He stated that in cases of torpid infection with dystrophy usually torpid pneumonia and preleukia blood transfusion resulted in a gain in weight and disappearance of the symptoms of anemia. Cases of dystrophy due to acute or chronic nutritional disturbances resulting from diseases of the gastro-intestinal tract also showed favorable results. In cases of hemorrhagic diathesis associated with blood diseases the transfusion resulted in hemostasis, an increase in the hemoglobin and a gain in weight. In suppurative septic processes and meningitis the results were negative.

HALPERN (Dnepropetrovsk) discussed the problem of the infusion of animal blood.

JUDI (Moscow) reviewed 200 cases of transfusion of vital blood and 70 cases of transfusion of postmortem blood. In cases of shock good results were obtained with postmortem blood but required larger amounts of such blood than vital blood.

PROSTOROV (Leningrad) reported that he had performed 11 blood transfusions in the cases of 7 chil-

dren 18 of whom were suffering from septic scarlet fever with or without metastasis and 6 from severe hemorrhagic diphtheria. The children ranged in age from one and a half to ten years. Ten of those with scarlet fever and 1 of those with diphtheria recovered. In the case of a child with diphtheria and myocarditis dyspnea and cyanosis occurred during the transfusion as the result of overdosing and death resulted an hour later. Prostorov concluded that in pyogenic infection associated with scarlet fever blood transfusion has a powerful positive influence. After the transfusion deep as well as superficial necroses and metastatic foci become rapidly walled off. Blood transfusion has good results also in hemorrhagic complications of scarlet fever. Pneumonia and pharyngitis associated with scarlet fever do not always contra-indicate blood transfusion. Blood transfusion without the opening of abscesses is futile.

BURCEVA (Leningrad) discussed the problem of the control of the donors. He cited a case in which a donor who showed nothing pathological when carefully examined on the day of a transfusion developed measles after the transfusion and twelve days later the recipient also became ill with measles.

HEINATZ (Krakow) reported on 253 blood transfusions. He stated that in cases of shock the results were excellent. When the blood had been preserved for fifteen days hemolysis occurred in 15 per cent of the cases. Blood which had been preserved for twenty days had toxic characteristics. Hemolysis of preserved blood is less dangerous than hemolysis of fresh blood.

ELVSKY (Leningrad) stated that in his opinion the transfusion of preserved serum is dangerous. Preserved plasma can be kept for a long time but has the disadvantage of being less effective than preserved blood. In sepsis blood transfusion is without effect. Although in the chronic form it is stimulating its action is not specific.

KALPERMAN (Moscow) reported that of 53 cases of septicopyemia treated by blood transfusion the transfusion saved the patient's life in 75 per cent.

SABAJAN (Moscow) reported 11 cases in all of which the transfusion of postmortem blood gave good results. He then discussed the problems of quick determination of the health of the donor during life especially as regards syphilis, tuberculosis, malaria and sepsis. Methods of removing the blood, methods of preserving and transfusing the blood, the duration of the preservation and the value of the transfusion of postmortem blood under conditions of civil life and war.

BARISTYIN (Odessa) stated that one of the most important criteria of the biological condition of the erythrocyte is their osmotic resistance. During preservation this resistance decreases. The decrease is due to many causes but chiefly to the preservative beginning destruction of the blood can be recognized earlier from the osmotic resistance than from any other factor. According to the findings of experimental investigation glucose is not a suitable preservative. Sodium citrate is preferable to glu-

cose As sodium chloride solutions are toxic, antagonists such as potassium chloride and calcium chloride should be added to them The combination of sodium citrate with calcium salts causes a disturbance of the physicochemical characteristics of the preserved blood and is therefore not a suitable preservative

HERZEN (Moscow) stated that the erythrocytes of the donor must disappear in the blood of the recipient within from two to three weeks after the transfusion Therefore a favorable effect of transfusion must depend upon stimulation of hematopoiesis and in cases of pathological hematopoiesis good results cannot be expected In hemolytic icterus, thrombopenia, and malignant anemia, blood transfusion is not indicated In the 2 former conditions it may be injurious In malignant anemia its effects do not last long enough whereas liver therapy gives good results

VIŠNEVSKIJ (Kazan) suggested blocking of the pararenal tissue by local anesthesia in cases of hemolysis

GOLOVKINA (N Novgorod) reported on 212 blood transfusions Good results were obtained in suppurative conditions

BLUMENTHAL (Moscow) reported a case of severe tetanus in which blood transfusion was beneficial (EUGEN BANNER-VOIGT) CLARENCE C REED, M D

LYMPH GLANDS AND LYMPHATIC VESSELS

Lightwood, R., Hawksley, J. C., and Bailey, U M.: *Supravital Staining in the Diagnosis of the Leukemias. Proc Roy Soc Med.*, Lond, 1935, 28 405.

The authors report briefly seven cases of leukemia occurring in children In four, the condition was lymphatic, in one, monocytic, and in two, myelogenous In all, the leucocytes were studied by supravital staining The pathological leucocytes are shown by illustrations in color

The technique of supravital staining is presented Information can be obtained from the motility of the cells, the vacuolar apparatus stained with neutral red, and mitochondria stained with Janus green The method is of most value in distinguishing lymphocytes from monocytes In one of the authors' cases it led to the correct diagnosis of monocytic leukemia It is of assistance also in distinguishing myeloblastic from acute lymphatic leukemia In the authors' four cases of lymphatic leukemia it showed the predominant cells to be lymphocytes and lymphoblasts The authors conclude that the supravital method is of clinical value and especially helpful in the diagnosis of rare and anomalous blood diseases HOWARD L AIR, M D

Rosenthal, N., and Harris, W.: *Leukemia. Its Diagnosis and Treatment J Am M Ass.*, 1935, 104 702

The important characteristic alteration in leukemia is the presence of a persistent relative or

absolute increase in the number of mature or premature white blood cells The type of premature cell usually varies with the duration of the disease Acute leukemia is characterized by the presence of the more premature types of cells, particularly the myeloblasts, lymphoblasts, and monoblasts Chronic varieties have a tendency to show more mature types such as polymorphonuclear neutrophiles and myelocytes in the myeloid leukemias and lymphocytes in the lymphoid leukemias

In acute leukemias the hemoglobin and the number of red blood cells are usually reduced In chronic leukemias anemia may be absent The blood platelets present marked variations, being usually greatly reduced in the acute types and in exacerbations of the chronic types

Weakness and fatigue are common and persistent Abdominal distress due to enlarged viscera or lymph nodes is usual Pain and ulceration in the upper part of the respiratory tract may occur Purpuric manifestations or uncontrollable bleeding such as bleeding of the gums or persistent hemorrhages following a surgical procedure may be the first evidence of a leukemic state

Leukemia must be differentiated from pernicious anemia, purpura hemorrhagica, agranulocytosis, subacute endocarditis, splenic anemia, and various other conditions Its diagnosis should be based on the characteristic blood changes These depend not so much on the number of white blood cells as on the presence and persistence of specific types of cells such as myelocytes, myeloblasts, and a relative and absolute lymphocytosis A confirmatory diagnosis of the more obscure varieties of leukemia may be made by biopsy on the sternal bone marrow or a lymph node.

Because of the limitation of our knowledge concerning the etiology of leukemia, no specific remedy is known and treatment is therefore essentially symptomatic The aims of treatment should be to improve the general condition, to render the patient comfortable by rest, regulation of the diet, and the administration of sedatives, and to increase his strength and efficiency by blood transfusions and roentgenotherapy The cases in which treatment is most successful are those of chronic myelogenous and lymphatic leukemia of the leucocythemic variety In these, the aim should be to reduce the number of white blood cells and increase the hemoglobin and red blood cells Reduction of the number of white blood cells may be accomplished by chemical, biological, or physical methods The performance of splenectomy in leukemia should be discouraged since, as leukemia is a disease of the entire hematopoietic system, it is unreasonable to expect any constant alteration in the general condition from the removal of only one of the organs affected

According to the authors' experience, irradiation therapy is of value in both acute and chronic leukemia, and there is justification for the belief that in some of the acute forms of the disease life may be prolonged perhaps for a year by blood

transfusion. Arsenic transfusions and particularly roentgen irradiations are the chief means of inducing symptomatic improvement and remissions and possibly prolonging life. *ELLA M. SALMON, M.D.*

Cutler M. Lymphosarcoma. A Clinical Pathological and Radiotherapeutic Study, with a Report of Thirty Cases. *Arch Surg* 1935 30 403

Histologically lymphosarcomas are generally divided into the following two groups:

1. Reticulum cell sarcomas or large round-cell lymphosarcomas arising from the reticulum.
2. Malignant lymphocytomas arising from the lymphocytes.

Clinically, the following varieties are recognized:

1. Lymphosarcoma with generalized adenopathy and no special localization.
2. Lymphosarcoma associated with localization in the tonsil, the pharynx, or the base of the tongue.
3. Lymphosarcoma associated with pronounced involvement of the retroperitoneal lymph nodes.
4. Lymphosarcoma with localization in the rectum.
5. Lymphadenoma—lymphoma.
6. Lymphosarcoma probably arising in the thymus and other thymic tumors of uncertain histogenesis.

The two major clinical types are:

1. A generalized form with widespread involvement of the lymph nodes.

A localized form in which the disease involves a localized area of lymphoid tissue.

The localized form is rare. Of thirty cases reported by the author, twenty-five were of the generalized form. The generalized form usually attacks the superficial and deep lymph nodes throughout the body. The mediastinal nodes are often extensively invaded. In view of the high incidence of involvement of the mediastinal, retroperitoneal and mesenteric regions as demonstrated by autopsy, these regions must be regarded as potentially involved and treated accordingly.

When the mediastinum is extensively involved the clinical and roentgenological findings suggest tumors of thymic origin. The histogenesis of the thymic parenchyma being undetermined, such tumors are difficult to classify. From the standpoint of radio-sensitivity, however, they form two distinct groups—one highly radio-sensitive and the other markedly radio-resistant.

Of the five cases of the localized form of the disease reported by the author, the disease originated in the nasopharynx in two, in the rectum in two, and in the cervical region in one.

The principles of treatment differ for the generalized and localized forms. In the former wide areas are exposed to irradiation and all lymph node-bearing areas are treated, regardless of the distribution of the disease which is evident clinically. Because of the necessity of exposing extensive areas of the body to the irradiation, the doses for each area are relatively small. The rapidity with which the exposures are made is determined by the patient's general condition.

In the localized form of lymphosarcoma it is safe to deliver a much larger dose of irradiation. Although it is not necessary to give the large doses used in the treatment of carcinoma, the dose should be much larger than that which can be safely administered in cases of the generalized form of the disease.

When only a single focus can be detected, the differentiation of the localized form from the generalized form of lymphosarcoma is difficult. There is no method by which it can be predicted whether the appearance of a localized focus of the disease will or will not be followed by the appearance of the disease in other regions.

In the generalized form, roentgen therapy may arrest the disease for varying periods, sometimes for years. In the localized form, eradication of the disease is possible. Sometimes after its eradication the condition appears elsewhere in the body, but occasionally an apparent cure is obtained.

SAMUEL KAHN, M.D.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE, POSTOPERATIVE TREATMENT

Cazzamali, P.: Studies of the Postoperative Variations in the Body Fluids II. Changes in the Blood Chlorides and Their Relation to Postoperative Changes in the Body Fluids (Studi sulle variazioni umorali post-operatorie II Le modificazioni cloremiche e loro interferenze sui fenomeni umorali post-operatorii) *Arch Ital di chir*, 1934, 38. 687

The author reports extensive chemical studies made in the cases of forty-eight patients ranging in age from twenty-one to sixty-two years who were subjected to such operative interventions as cholecystectomy, operations for renal calculi, ovarian cysts, cerebral tumors, and hemorrhoids, appendectomy, osteotomy, gastro-enterotomy, gastric resection, exploratory laparotomy, thyroidectomy, nephrectomy, and the Bassini operation for inguinal hernia. Ether, spinal, and ethylene anesthesia were used in some of the cases but chiefly local anesthesia was employed.

The chemical determinations included. (1) the chloride content of the blood cells and of the plasma and the ratio of the former to the latter, (2) the nitrogen content of the blood, (3) the alkali reserve, (4) the ketones of the blood the hydrogen-ion concentration, and (5) the quantity, specific gravity, and chloride and urea content of the urine.

From his findings the author draws the following conclusions:

1. Operation causes a fall in the blood chlorides. The decrease is most marked after the first twenty-four hours.

2. The decrease tends to lower the ratio of cell chloride to plasma chloride.

3. The disturbance in the equilibrium is usually, but not always, proportional to the gravity of the operation, but is independent of the nature of the lesion and the type of the operation.

4. In the phase of increase, the increase begins particularly in the chloride of the cells and tends to increase the ratio of cell chloride to plasma chloride.

5. Postoperative variations in the concentration of the nitrogen of the blood seem to be in direct proportion to the variation of the chlorides in the blood. In 75 per cent of the cases studied this relationship was definite.

6. The variations in the chlorides of the blood studied parallel with the variations in the alkali reserve, the ketones of the blood, and the variations in the hydrogen-ion concentration seem to predispose to a state of acidosis in the early part of the postoperative course and to a state of alkalosis later.

7. Comparison of the postoperative changes occurring in the body fluids (variations in the chlo-

ride and nitrogen content of the blood, alkali reserve, etc.) with those occurring in the urine permits the conclusion that postoperative hyperazotemia is due to an extrarenal mechanism. CLARA RAVEN

Turnbull, H. H.: Postoperative Pulmonary Complications. *Australian & New Zealand J. Surg.*, 1935, 4. 245.

The author divides postoperative pulmonary complications into two groups—embolism and atelectasis. Embolism may result in infarction. Atelectasis may cause simple collapse of the lung, pneumonia, or lung abscess.

The first sign of severe pulmonary embolism is a desire to defecate. The blood clot causing this condition comes, not from the site of operation, but from a large vein. In forty-three of fifty cases of fatal postoperative pulmonary embolism the condition followed an abdominal operation. If the clot is small and passes the main branches of the pulmonary artery, pulmonary infarction results. The latter is manifested clinically by a sudden severe cutting pain in the chest, difficulty in breathing, cyanosis, and shock accompanied by cough and a rapid pulse rate. The temperature later rises and examination reveals dullness and weak breath sounds over the affected area, with a pleural rub and later tubular breathing. The patient coughs up blood-stained mucus.

Emboli usually separate about the tenth day, but sometimes later. Embolism is much more frequent after the age of fifty years.

The treatment of pulmonary embolism is reassurance and the administration of morphine. It is well to tell the patient that he will cough up blood-stained mucus and that it is unimportant. Infarcts do not cause abscess formation except in the presence of pyemia.

The development of postoperative atelectasis is favored by chronic bronchitis, mild influenza, chilling, and any other factor causing increased bronchial secretion.

If the bronchial secretion is increased and especially if it is viscid, it may collect in the main bronchus on the side toward which the patient lies. If there is interference with coughing and deep breathing, the bronchus may become occluded and atelectasis follows. The occurrence of atelectasis is manifested by sudden dyspnea, slight cyanosis, a rapid pulse, shock, and pain in the side. On examination, the involved side is found immobile and the breath sounds weak or absent. The percussion note is dull and the heart is displaced toward the involved side.

The author believes that atelectasis may often be prevented by delaying operation until the patient is free from acute infection of the upper respiratory

tract. Prevention of chilling is important. During the postoperative period deep breathing should be induced. This is important in cases of abdominal operation as frequently pain at the site of operation prevents deep respiration. Frequent changing of the position of the patient is a valuable adjunct in the prevention of atelectasis.

The best treatment of atelectasis is bronchoscopy. In some cases, however, simply turning the patient onto the unaffected side to increase the movement of the involved lung is sufficient. Carbon dioxide inhalation is valuable. The carbon dioxide may be given at intervals.

The author does not believe that postoperative pulmonary complications are due to the anesthetic. In support of this opinion he cites reports in the literature showing that they occur more often following spinal anesthesia than after inhalation anesthesia.

He attributes postoperative pulmonary abscesses to the aspiration of infected material which blocks a bronchus producing atelectasis and infects the collapsed lung causing it to break down.

EARL O LATIMER M.D.

Brown G. Postoperative Pulmonary Complications. *Australian & New Zealand J. Surg.* 1935 4: 250.

The author discusses postoperative pulmonary complications from the standpoint of the anesthetist. He describes three simple methods by which patients may be graded according to operative risk—the breath holding test, determination of the pressure ratio (Mout's rule), and determination of the energy index. The breath holding test consists in having the patient hold his breath after sitting quietly for five minutes and then take a full breath and hold it. The normal period for which the breath can be held ranges from thirty to forty seconds. If the patient is able to hold his breath for only ten seconds or less he is unfit for a general anesthetic. If he is able to hold it for only from ten to eighteen seconds he is a poor risk. If he is able to hold it for only from eighteen to thirty seconds he is a fair risk. But if he is able to hold it for from thirty to forty seconds he is probably a good risk.

In the choice of anesthetic several factors must be considered. Gas anesthetics are preferable in the presence of lung disease and when the patient is unable to hold his breath longer than a period less than thirty seconds. Either is the anesthetic most widely used in Australia. Whatever anesthetic is employed its administration should be discontinued before the end of the operation in order that the cough reflex may be present before the patient leaves the operating room.

After the operation the patient should be protected from chilling and his position should be changed frequently. If there are signs of collapse of the bases of the lungs a mixture of carbon dioxide and oxygen should be administered.

EARL O LATIMER M.D.

Ljiraga P. Ossification in Postoperative Scars (Le ossificazioni in cicatrici postoperatorie). *Arch. clin. chir.* 1934 39: 29.

Four cases of new formation of bone in operative scars are reported. The bone had all the histological characteristics of normal bone differing from the calcifications sometimes seen after trauma. While the latter often undergo spontaneous retrogression bone structures of the type found in these cases are progressive though they do not recur after operative removal. They generally appear in the upper part of the linea alba, but in one of the author's cases they were formed in the scar of a kidney operation and were attached to the rest of the left lumbar. In the first three cases the calcium and potassium and their ratio to each other were normal. In the last case their quantity was slightly increased.

The author concludes that in three of his cases the new bone was due to local new bone formation from specific autochthonous osteogenic cells in the linea alba. In the fourth case there was some evidence that it was produced by detachment of periosteum.

ANDREW COSS MORGAN M.D.

ANTISEPTIC SURGERY, TREATMENT OF WOUNDS AND INFECTIONS

Maraszewski M. The Prognosis of Crushing Injuries of the Extremities (Ueber die Prognose der Zermalmungslaesionen der Extremitäten). 1934. Basel. Dissertation.

The author distinguishes between open and closed crushing lesions but states that the chief factor is the crushing of masses of muscle. He calls attention to the traumatic vascular spasm described by Kuettner and Baruch which may suggest tearing or complete occlusion of the main artery because of the resulting cessation of pulsation, loss of function and loss of sensation. This spasm is accompanied by circular constrictions from a to 10 cm. in length without organic injury of the vessel wall. Von Kuettner claims that the spasm is of myogenic origin for if it were of neurogenic origin it would extend diffusely over larger areas. The prognosis is favorable. Massage of the involved segments of the vessel, the injection of salt solution, dry heat, douches and injections of atropin are recommended.

The author next discusses various viewpoints regarding the treatment of crushing injuries.

Levene and Leriche reported 23 amputations performed in cases of shock from crushing injuries all of which were followed by recovery. Sisenski reported on 502 cases of railroad accidents in which there were 197 complicated fractures and 33 per cent of the patients died. Amputation should be delayed until the shock is over. Sometimes the shock may last twenty-four hours. Estes says that operation should not be done when the blood pressure has dropped below 80 mm. He amputates in cases of circular crushing injuries, cases with crushed bones and soft parts even those in which the skin is unbroken and cases with shattering of a bone over an

extent of more than 6 cm and crushing of the surrounding soft parts

According to Imbert, street wounds are more serious than war wounds because, in the former, bacteria are introduced into the wound with greater force. Koch recommends primary suture of the wounds of the soft parts, and reports the following results: primary healing in 48 per cent of cases, mild disturbances in 22 per cent, severe wound disturbances in 21 per cent, complications necessitating secondary amputation in 4.8 per cent, and death in 4 per cent. In large shattering fractures and infection with anaerobes, suturing is contra-indicated.

There are various theories regarding shock. Henschen considers "shock" an inclusive term and distinguishes between the chemical shock, non-hemorrhagic postoperative shock, and reflex shock. He calls attention to the poisonous character of the early products of disintegration which in the chemical type of shock cause a marked fall in the blood pressure with dilatation of the peripheral blood vessels. He states that chemical shock and reflex shock are frequently associated.

At the Basel Clinic blood transfusions and block anesthesia of the main nerves to the limb (Crile) are supplemented with perivascular injections of large doses of atropin and novocain in the region of Hunter's canal to prevent post-traumatic anemic spasm of the large vessels of the extremity. During the first few days liberal doses of narcotics are given. The treatment is as conservative as possible. Débridement is done with a cutting diathermy loop, the limb is immobilized with a plaster dressing if possible, and the crushed soft parts are relieved of pressure by means of a suspension wire through the first metatarsal. Tetanus and gas-bacillus serum are administered, staphylococcus-phage is injected, and a cod-liver oil and vaseline pack is placed in the wound. Fifty-six cases of crushing injuries treated in the last ten years are presented in a table. There were 8 deaths in the first few days. Three of the deaths were due to hemorrhage. In all of these cases the lower extremity was injured. In 6, there was a fracture of the femur. In 6 cases fat emboli were demonstrated at autopsy. The prognosis was most unfavorable in cases of injury of the lower extremities in automobile and motorcycle accidents. In 5 cases, blood transfusions of from 500 to 750 c.c. were followed by good results. In 25 cases, amputations and disarticulations were done, 4 of them on the fingers and toes. Gas phlegmon occurred in 1 case, but the patient recovered.

(FRANZ) PHILIP SHAPIRO, M.D.

Abel, J. J., Evans, E. A., Jr., Hampil, B., and Lee, F. C.: Researches on Tetanus. II. The Toxin of the *Bacillus Tetani* Is Not Transported to the Central Nervous System by Any Component of the Peripheral Nerve Trunks. *Bull. Johns Hopkins Hosp.*, Balt., 1935, 56, 84.

Bacillus tetani is known to the specialist as "clostridium tetani." It is of the family of the

bacillaceæ of the general class of plant organisms known as "schizomycetes." The chemical nature of the toxin is not known.

The authors discuss local tetanus, modern ideas on the distribution of tetanus toxin, earlier experiments in favor of the theory of the carriage of toxin in the peripheral nerves to the cells of the central nervous system, investigations in support of the nerve transport theory since 1884 and the proposed modifications of it, and implications of the theory and disproof of an earlier attempt to show that water-soluble substances can be distributed throughout the body by the "tissue-space mechanism." The authors summarize their article as follows:

"We have presented many considerations and many facts in support of our belief that tetanus toxin and dyestuffs injected in an aqueous medium either intraneurally, subcutaneously, intramuscularly, or intravenously are not carried in the axis cylinders, the lymphatic vessels, or the tissue spaces of peripheral motor nerves to the reacting cells of the central nervous system. We have also cited the recent investigations of anatomists who have traced the outflow of lymph from nerve trunks and have shown that it, like the lymph of other structures of the body, is added finally to the venous blood and not to the cerebrospinal fluid.

"We furthermore called attention to a series of investigations that were carried out by Abel and Abel and Turner in the years 1910 to 1914, in which it was conclusively shown that alkaloids and dye stuffs cannot be distributed throughout the body by any peripheral mechanism such as the 'tissue spaces'.

"An account will be given in later papers of experiments that have been in progress in our laboratories for more than two years on the pathogeny of local tetanus, on the influence of complete denervation of muscles on the course of the poisoning, and on the reflex phenomena and other aspects of both experimental and natural tetanus. We find ourselves quite as unable to accept the current theories in regard to many of these characteristics as we are to accept the nerve-transport theory for the very good reason that this untenable theory is here also made to serve as the basis for their explanation."

CARL R. STEINKE, M.D.

Verlende, J.: Experimental Studies on the Specific Immunizing Power of the Staphylococcic Bouillon-Antivirus (Recherches expérimentales sur le pouvoir immunisant spécifique du bouillon-antivirus staphylococcique). *Rev. belge d. sc. med.*, 1934, 6, 817.

According to Besredka, the bouillon filtrate of a culture upon which certain bacteria such as staphylococci, streptococci, typhoid bacilli, or colon bacilli have been developed exerts an inhibiting influence on the multiplication of such organisms. This property is specific and may be used to advantage in the production of local immunity. The filtrate is given the name "antivirus." A similar product may be obtained by centrifugalization.

These two fluids are devoid of proteins and retain their specific properties even when boiled. They are capable of increasing the natural resistance of certain cell groups. Therefore they act, not like antibodies on the infecting agent but on the tissues and not on the body as a whole but only on the region invaded by the bacteria. These findings have been confirmed by several investigators but others question the existence of both the antiviral and its specific properties.

Verlende reports a study of the effect of a staphylococcal antiviral on phagocytosis and of ordinary bouillon and the specific bacteriophage. The experiments were made on normal guinea pigs weighing 250 gm. One cubic centimeter of antiviral bacteriophage, simple bouillon or bouillon filtrate was injected into the peritoneum. One day after the injection the animals were infected by the injection of 1 c.c. of a fresh emulsion of living staphylococci. The concentration of the emulsions was always the same, namely, about 5,120,000,000 bacteria per cubic centimeter.

In the control animals the dose administered always produced a characteristic septicemia which terminated fatally in from five to eight days. From the fifth minute after the infection specimens of peritoneal fluid were at first withdrawn at regular intervals up to twenty-four, fifty-four or seventy-three hours. Later the examinations were limited to seven hours as it was found that reliable results could be obtained in this interval.

The experiments included infection of normal guinea pigs of guinea pigs prepared with antiviral bacteriophage, ordinary bouillon, bouillon filtered twice and bouillon filtered ten times and injections of ordinary bouillon or bacteriophage into normal guinea pigs. The results are presented in a table. The author's findings and conclusions are summarized as follows:

1. Ordinary bouillon of currently used cultures, and especially its filtrate on Chamberland F bougies, will produce immunity to infection by virulent staphylococci within one day after its injection. Such immunity may be obtained after a single peritoneal injection but results more constantly after two injections of 1 c.c. separated by an interval of twenty-four hours.

2. An antiviral prepared from the same strain of staphylococci had an even greater protective action than simple bouillon or its filtrates since in the guinea pigs prepared with antiviral the arrival of the macrophages was delayed so that there was more time for phagocytosis of the bacteria by the polynuclears.

3. An even greater protective effect was obtained with the bacteriophage. In the guinea pigs receiving bacteriophage the arrival of the mononuclears was accelerated but it did not cause a precocious destruction of polynuclears. Moreover the latter seemed to show an increased avidity for the bacteria which the mononuclears also helped to destroy.

4. It therefore appears that aside from the protective property characteristic of ordinary bouillon

and its filtrates the antiviral possesses a certain specific immunizing property. Experimental proof of the immunizing power of the antiviral can be obtained only if the control products do not show a similar power under similar experimental conditions.
EDITH SCHWARTZ MOORE

Mitchell J. H. Streptococcal Infection Simulating Ringworm of the Hands and Feet. *J. Am. M. Ass.* 1935 104 1230

Mitchell reports five cases of hemolytic streptococcal infection (impetigo) of the hands or feet. The lesions simulated those of mycotic infection sufficiently to have led to errors in diagnosis. Because of the marked tendency to regard all acrodermatoses as ringworm of the extremities the author emphasizes the importance of making a careful laboratory examination in all cases of dermatoses of the hands and feet. He is of the opinion that the streptococcal origin of impetigo can be proved with ease.

In the cases reported the infection yielded within one week to baths of corrosive mercuric chloride and the application of weak ammoniated mercury ointment.
WALTER H. NADLER, M.D.

ANESTHESIA

Vehrs G. R. Problems in the Hydrodynamics of Analgesics in the Subarachnoid Fluid of Man. *Diazotized Novocain in Artificial Dural Sacs*. *West. J. Surg. Obst. & Gynec.* 1935 43 16

Following a review of the anatomy of the spinal cord and spinal meninges and a description of the dural curves the author discusses the induction of spinal anesthesia including in his discussion the important chemicals used, the mixing of one solution in another, methods of injection, experiments with heavy procaine solutions in artificial dural sacs conforming to the shape of the three types of normal dural curvatures in man, split dosage change of posture from the lateral horizontal to the supine, the reverse Trendelenburg position, spinal dynamics, arterial pulsations of the brain and cord and the use of pantocain and nupercain. He draws the following conclusions:

1. An elucidation of the alterable factors in spinal anesthesia deserves most careful attention in the interests of the elimination of shock and reduction of morbidity and mortality.

2. A clearer elucidation of the unalterable laws which govern analgesics in the spinal subarachnoid will inevitably and speedily bring about a more universal adoption of the method.

3. When chemical concerns distribute spinal analgesics with proved and measured chemical actions and reactions, subarachnoid nerve block may win wider recognition.

4. Chemical which produce subarachnoid analgesia for thirty minutes should be used for brief diagnostic and operative procedures which require very little or no relaxation.

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Kirklin B. R. Some Problems in Diagnosis and Their Solution by Radiological Examination of the Alimentary Canal. *Proc Roy Soc Med* Lond 1935 28 549

The basis of selecting patients for roentgenological examination should be sufficiently broad to include all those whose symptoms are at all indicative of chronic organic disease of the alimentary tube unless such disease can be excluded with considerable certainty or the condition of the patient forbids the examination. While this basis cannot be prescribed in exact terms and will be formulated differently by different physicians in accordance with their particular experience there are certain clinical manifestations which even when not pronounced or not associated with their common accompaniments should be regarded as definite indications for thorough investigation with the X ray unless their cause is obvious or can be determined readily by other means.

Hemorrhage from the alimentary canal whether in the form of gross hematemesis blood stained vomitus frank bleeding from the bowel or tarry stools is an urgent indication for roentgenological investigation. Peptic ulcer is so often the cause of such hemorrhage that only this lesion may be considered by the clinician. Kirklin has known instances in which the roentgenologist prejudiced by the history of hemorrhage made a diagnosis of ulcer of the duodenum when the lesion was quite different both in character and situation.

Potential causes of anemia are so numerous that this condition is one of the most perplexing signs with which the clinician has to deal and when it is not accompanied by other manifestations the discovery of its origin often entails laborious investigation. Anemia of moderate degree seems less urgent in its demand for inquiry and is likely to be ascribed to a deficient diet or unhygienic conditions although it may have much graver causes. Marked anemia will stimulate a vigorous search for its cause but it is difficult to determine the most promising order of approach or to keep in mind the uncommon lesions that may underlie the condition. Among the latter are the primarily benign polypoid new growths in the stomach or bowel. As a rule these growths become superficially eroded and a slight but constant seepage of blood ensues with resulting anemia. In every case of unexplained or seemingly idiopathic anemia a roentgenological study of the gastrointestinal tract should be made.

Marked loss of weight without other subjective or objective manifestations of ill health is sometimes regarded lightly by the patient especially if he is of

middle age and has been heavier than he wished to be or expects to grow thin with advancing age. Few physicians will underestimate the potential gravity of this sign but in the absence of gastric or intestinal symptoms it may seem illogical to give first or serious consideration to cancer of the stomach or colon among the many possible causes. Nevertheless the onset of such cancers is insidious and is so often heralded solely by loss of weight that a roentgenological examination should be among the first tests applied. Both surgeons and clinicians have repeatedly emphasized that in most cases of cancer of the alimentary canal an early diagnosis can be made only by roentgenological examination.

Recurrent vomiting without an obvious cause such as sick headache is such an emphatic indication for roentgenological study that it will seldom be ignored. The X ray may disclose a gastric cancer an ulcer on the lesser curvature of the stomach with pylorospasm a duodenal ulcer or an obstructive lesion at the gastric outlet. If the stomach and duodenum are found normal cholecystography may reveal disease of the gall bladder. Nausea especially when slight is not an impressive symptom yet may be the sole indication of serious disease of the stomach.

Epigastric or upper abdominal pain or discomfort which is precipitated aggravated or relieved by the taking of food is so strongly suggestive of gastric duodenal or cholelithic disease that it will almost invariably receive due attention. This symptom in conjunction with other clinical data will often distinguish between peptic ulcer and disease of the gall bladder but the clinical differentiation between gastric ulcer and duodenal ulcer and between benign and malignant ulcer is much less accurate than the differentiation between these lesions which is possible by X ray examination.

Most striking among the roentgenological signs of duodenitis is the extraordinary irritability of the bulb. A suspension of barium races through the bulb so rapidly that there is little opportunity to inspect the shadow. The bulb is small and grossly deformed on both borders and the configuration of the deformity changes quickly from moment to moment. The mucosal pattern is coarsely and irregularly reticular with translucent islets lying in a denser network.

In cases of ordinary constipation X ray examination rarely furnishes important data. However constipation alternating with diarrhea may result from obstructing carcinoma or diverticulitis or such lesions may give rise to intermittent attacks of constipation with pain and in either combination the advisability of roentgenological examination is suggested. Chronic or recurring diarrhea calls urgently

When only one extremity was irradiated the formation of the sterile abscess was not influenced unfavorably to any degree. When the spleen was irradiated abscess formation was affected only slightly. After partial irradiation in contrast to irradiation of the entire body the reaction of the blood picture to the injection of turpentine remained normal.

(VON BRAUNFERS) CLARENCE C REED M D

Shepley E E The Role of Radiotherapy in the Problem of Malignancy *Canadian M J* 1935 32 231

Irradiation is recognized as the treatment of choice for cancer of the lip, mouth, pharynx, and anal area. In cancer of the rectum preoperative irradiation constitutes the ideal primary attack. In malignancy of the esophagus irradiation is the single measure that offers the patient the greatest relief.

In cancer of the uterus, vagina, vulva, female urethra, bladder, prostate, penis, and testicles irradiation constitutes not only the primary attack but is very largely the treatment of choice. In cancer of the breast it is the chief factor in successful treatment. The primary attack on cancer in the nasal accessory sinuses, tonsils, pharynx, and larynx is radiotherapeutic. In cancer of the lungs, bronchi, or pleura, palliative irradiation is indicated. In sarcoma the initial treatment and sometimes the only treatment is irradiation. In secondary malignancy, irradiation often effects marked palliation. This is particularly marked in bony metastases the pain of which is often entirely relieved. In an analysis of all cancer deaths due to malignancy of the breast in Sweden, We termark found that without treatment the patient lives on an average thirty-one months after surgery, thirty-nine months after surgery and postoperative irradiation, forty-nine months after surgery with preoperative and postoperative irradiation, sixty-one months and after endotherapy and irradiation, sixty-seven months.

JOSEPH A. NARAY M D

MISCELLANEOUS

Lob A Indications for and Results of Short Wave Therapy in Surgery (Anzeigstellung und Ergebnisse der Kurzwellenbehandlung in der Chirurgie) *Muenchen med Wchschr* 1934 2 1812

After a brief review of the physical differences between long wave and short wave diathermy the author defends the theory that the biological effect of short wave diathermy is not specifically electrical but to be attributed to the production of heat in the tissues. While the heat action is dependent upon the wave length and therefore to a certain extent specific the extent to which this selective heat action can be made useful in medical practice has not yet been determined. Exact dosage is impossible; the patient's subjective perception of heat must be the chief guide for the dose. At least from 200 to 400 watts are required in the diseased region.

The author reviews the indications recognized and the experience at the University Clinic at Munich up to the present time in the treatment of the surgical conditions in which short wave diathermy comes up for consideration. He warns against indiscriminate treatment of acute pyogenic infection with short wave diathermy as the use of this therapy without a preceding surgical procedure often leads to spread of the infectious process with increased tissue necrosis and absorption of toxins. Good results are obtained in some conditions especially non-suppurative pleural exudates, recurrent joint effusions, periarthritis humeroscapularis, acute diseases and wounds of muscles (overstretching, contusion, lumbago) and sciatica and other neuralgic complaints. The method is of value also in the after treatment of numerous surgical conditions. An attempt to influence inoperable tumors of human beings favorably by short wave diathermy was unsuccessful. Neither in the author's opinion is it possible to demonstrate a specific biological action of short wave diathermy on animal tumors.

(VON HASSELBACH) HARRY A. SALEMANN M D

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Mutschenbacher, T.: The Surgical Importance of Angioneurotic Edema (Die chirurgischen Beziehungen der angioneurotischen oedeme) *Orvos-képés*, 1934, 24 33

An important constitutional condition, the angioneurotic exudative constitution, is described with all its interesting symptoms on the basis of some of the author's cases and a review of the literature

Vasomotor disturbances arise from over-excitation of the innervation of the blood vessels This may be caused by chemical substances having their origin within or outside of the body The author attributes postoperative death after thyroidectomy for exophthalmic goiter to severe anaphylactic shock In one of his cases of severe recurrent exophthalmos it was necessary to perform a cholecystectomy with drainage of the common duct before the contemplated thyroidectomy The severe postoperative reaction was essentially the same as that observed following interventions on the thyroid The patient remained in a critical condition for twenty-four hours At the end of that time recovery resulted with a decrease in the metabolism from +90 per cent to +56 per cent Several months later the thyroidectomy was performed with a much milder reaction

The author's cases of angioneurotic edema are divided into two groups The first group are those of young persons without a proved inherited tendency to develop the condition After the ingestion of certain foods these patients experience attacks of edema of the face, tongue, uvula, or other part of the body which continue for several hours Noteworthy are the cases reported by two surgeons in which the spraying of a 1/2 to 1 per cent solution of novocain on the skin was followed by urticaria factitia with marked reddening and edema In exudative conditions the author has repeatedly seen tissue necrosis follow prolonged spasm of the vessels after the injection of a novocain solution, even a solution free from tonogen

The second group into which the author divides his cases of angioneurotic edema are those of persons with a hereditary familial disposition to the condition He has observed Quincke's edema in four generations of one family Bálint has described by the term "tympanismus vagotonicus" a syndrome with intestinal spasms The author reports two cases in which ileus-like symptoms were probably caused by circumscribed edema of the mucous membrane of the intestine As nearly all of his patients with allergic symptoms had a reduced basal metabolism (from -25 to -35 per cent), the assumption of hypothyroidism seems justified

After reviewing the various methods of treatment recommended, the author cites a number of severe and fatal cases from the literature to emphasize the possible seriousness of angioneurotic edema

(ENDRE MAKAI). PAUL STARR, M.D

Adson, A. W., Kernohan, J. W., and Woltman, H. W.: Cranial and Cervical Chordomas: A Clinical and Histological Study. *Arch Neurol. & Psychiat*, 1935, 33 247

The authors report a case of tumor arising from the clivus blumenbachii, a case of tumor arising from the spheno-occipital synchondrosis, and a case of tumor arising from the second cervical vertebra These cases are interesting because our knowledge of the response of such tumors to surgical intervention and roentgenotherapy is limited The third case is of interest also because the tumor present in the cervical region had caused symptoms for twenty years and at operation was found encapsulated and could be completely enucleated In the histological study of the tumors a new conception was evolved and further evidence was obtained with regard to the possible presence of glycogen in the cytoplasmic vacuoles of the cells

Except in the sacrococcygeal region, vertebral chordomas are decidedly infrequent Next to the sacrococcygeal region, their most common site is the cervical region Occasionally they occur in the lumbar region

So far, a pre-operative diagnosis of chordoma has been made only by biopsy, a procedure that is restricted to tumors of the sacrococcygeal group and to those that make their way into the nasopharynx from the skull or the cervical portion of the spine However, biopsy also may present difficulties Hirsch reported a case in which repeated specimens taken from a tumor in the tonsillar region resulted in such a wide variety of diagnoses and comments by eminent pathologists as almost to drive him to despair Ultimately a diagnosis of chordoma was made Until the pathologist had been informed that the tumor extended into the retropharyngeal space, he had had great difficulty in reconciling the microscopic picture with the origin of the growth

It has been suggested that a diagnosis of chordoma arising from the clivus blumenbachii or spheno-occipital synchondrosis can be made only with the aid of roentgenography. However, in the second case reported by the authors little evidence of destruction of bone was seen in the postmortem roentgenogram in spite of the fact that the tumor originated from the region of the spheno-occipital synchondrosis and had invaded the surrounding bone Obviously, therefore, visualization of the tumor *in situ* would be very difficult or almost im-

possible. In the authors' first case there was no demonstrable destruction of bone and only the secondary signs or those from neighboring involvement led to the diagnosis. Operative intervention relieved many of the signs of dyspepsia, at least temporarily. Even the menses returned to normal. The authors state that roentgen therapy is of doubtful value although this group of tumors is too small to allow conclusions regarding it. Most chordomas have a tendency to invade the surrounding bone and soft tissues so that their complete removal is impossible and local recurrence and extension are almost certain. The third case reported by the authors was unique as the tumor was definitely and completely encapsulated and therefore was enucleable. It had eroded but not invaded the adjacent bone and behaved grossly more like a neurofibroma than like a chordoma.

The histological features of all three tumors were characteristic of chordomas and closely simulated those of the embryonic notochord. Some of the vacuoles of the physaliphorus cells contained mucus. The content of the others was not demonstrable. It has been claimed that these vacuoles contain glycogen but as it is often impossible to obtain fresh tissue and to fix it immediately in absolute alcohol which is necessary for microchemical identification of this substance it is difficult to prove or disprove this claim. The tissue from all of the three tumors described by the authors had been fixed in formaldehyde in an aqueous solution in which glycogen is extremely soluble yet Best's carmine stained on sections of the tissue which had been embedded and cut in paraffin gave a strongly positive result. Control sections from other tissues such as liver tissue and from tumors such as chondromas did not give positive reactions. While it is doubtful if the content of the cellular vacuoles is glycogen it may be paraloglycogen or some allied substance. Further investigation of the content of these vacuoles is necessary to determine its true nature. The nuclear vacuoles did not give a positive reaction with the stain for glycogen. The authors believe it possible that previous workers who demonstrated glycogen in chordomas were obtaining a non-specific reaction such as the authors observed. Previous workers did not mention having tried the stain for glycogen after the tumor tissue had been fixed in formaldehyde or in a fixative containing water.

Primrose A. Cancer. *Canadian Med Ass J* 1935 32

233

Two factors are believed to be necessary for the development of cancer: (1) a specific irritant and (2) structural or physiological peculiarities of the involved organ which have been acquired by heredity. According to this theory, the absence of either factor will prevent cancer. It is obvious that the part played by heredity in the production of cancer is beyond our control. Therefore our efforts to decrease the incidence of cancer should be directed toward the prevention of exposure to the irritants that

are known to induce cancer in various regions of the body.

It is the duty of competent men in large centers and of wide experience to disseminate knowledge regarding the early diagnosis of cancer. In Canada a great deal of this work has been done by the Canadian Medical Association by means of postgraduate lectures.

In the treatment of cancer both surgery and radiation are dangerous weapons in the hands of those who are not expert in their use. Radium has a very profound effect upon the growth of the cancer cell. Unfortunately an impression has gone abroad that the radiologist in his enthusiasm occasionally makes unwarranted claims as to the efficacy of radium in the eradication of cancer. There can be no doubt that in radium we have a most potent weapon against cancer but its place in our armamentarium is not yet definitely settled. Its value should be assessed not only by the radiologist, the surgeon or the physician but by a group including the radiologist, physician, surgeon, pathologist, physicist and biochemist.

While it has been claimed that there has been a decrease in the incidence of cancer up to the sixtieth year of age, this is not true for Canada. However, the great increase in cancer mortality in Canada has been due to the deaths of persons over sixty years of age. It is possible that the very great increase in the mortality of cancer which is indicated by statistics may be to some extent more apparent than real.

The author believes it to be the duty of the Canadian Medical Association to take an active part in the campaign to eradicate cancer. He suggests that that organization undertake the direction of a campaign similar to the British Empire Cancer Campaign.

ELLA M. SALMONSEN

Feyrter F. Carcinoid and Carcinoma (Carcinoma und Carcinom). *Ergebn d Path* 1934 29 395

The author reviews the literature on carcinoids and carcinoma of the stomach and intestines and reports on fifty-nine cases in which he found eighty-seven carcinoids. In the latter the carcinoids were discovered most frequently in the ileum, next most frequently but not nearly so often in the appendix and the duodenum and least frequently in the rectum, jejunum, stomach, the papilla of Vater, and the papilla of Vater.

It appears that carcinoids occur more frequently in the ileum in men than in women and more frequently at this site in elderly than younger persons. No case of congenital carcinoid has yet been reported and carcinoid never has been found in a fetus. In children carcinoids are rare. In about a third of the cases of ileal carcinoid reviewed by the author the lesions were multiple. Carcinoids may be multiple also elsewhere except in the stomach.

The nodules are seldom large. In 2 per cent of the reviewed cases they were the size of a hazelnut but in 72 per cent they were military or the size of a lentil. In the appendix carcinoids usually pene-

trate the entire wall, whereas at other sites they usually involve only the inner layers

Histologically, carcinoids are of a reticular structure, solid or composed of small tubules, or both. On the whole, they constitute a uniform group, but it is not certain whether all carcinoids are to be attributed to the same type of cell, the so-called yellow cells of the gastric and intestinal epithelium. Like the cells of carcinoids, these cells can be stained with chromium and silver but only when the tissue has been fixed in formalin. The author suggests that functionally different cells of the epithelium, distinguishable from one another by stains, may take part in the formation of carcinoids—that there may be different kinds of carcinoids. He states that, at any rate, it has not yet been determined whether all carcinoids possess the peculiar property of taking chromium and silver stains. It is probable that the nodules of the duodenal papilla are not identical with other carcinoids. The author emphasizes also that the peculiar reactions mentioned are not exhibited by the glandular growths of the stomach and duodenum.

Carcinoids arise from budding of the epithelium at the base of the crypts, probably from the yellow cells. These buds also show the peculiar reactions. Segmentation of the buds is preceded by catabiotic changes of an inflammatory nature.

The theory of an embryonic origin of carcinoids is not acceptable. Like nevi, carcinoids are usually benign. The author believes that the designation of carcinoids by terms based on one or another resemblance of these tumors to nevi, basilioma or island-cell adenomas of the pancreas should be rejected as not sufficiently appropriate. He states that the manner of spread of carcinoids is not known.

(ROBERT MEYER) FLORENCE ANNAN CARPENTER

Sutton, R. L., Jr.: Early Cutaneous Carcinoma. *J Am Med Ass*, 1935, 104: 433

The author attempted to determine which circumscribed epithelial newgrowths theoretically difficult to classify have the potentiality of developing into carcinoma. He reports briefly five cases and describes the earliest recognizable skin carcinoma from three standpoints: the clinical, the microscopic, and the theoretical. In accordance with the theory that one cell can constitute a cancer, he states that such a description is independent of the size of the lesion. It is independent also of the rate of growth of the lesion. It stresses the concept that carcinoma in the gross is purely a manifestation *en masse* of epithelium growing abnormally. It conceives relative malignancy as dependent on balance between the proliferative capacity of tumor cells and the resistance of the host. It explains multiplicity of cell type in one tumor on the basis of mutation following on mutation. It enlarges the concept of skin carcinoma, and offers a reasonable and unified design for the interpretation of neoplastic processes. It is eminently practical for it encourages suspicion of minute lesions which might grow into gross carcinomata.

The therapeutic correlate is that, if a lesion may cause serious trouble later, now is the time for its destruction.

The author sums up his conclusions briefly as follows:

- 1 Many skin cancers begin as *de novo* lesions
 - 2 The earliest visible lesion in these cases is a circumscribed scaly, epithelial newgrowth
 - 3 Because of the structure of many minute, scaly, epithelial newgrowths it is reasonable to presume that, if not interrupted, these growths will become obvious carcinomas
 - 4 It is reasonable to believe that such lesions are in fact early carcinomas
 - 5 If a lesion has a structure not compatible with the likelihood that it is an early carcinoma, it might be called precancerous. However, it is impossible to predict that such a lesion, if uninterrupted, will develop a structure such that it would be properly called carcinoma.
 - 6 It is impossible to determine at what point in its natural history a cancerous lesion was not cancerous
 - 7 It is reasonable to believe that cancer is cancer from the start
 - 8 The concept of precancerosis is indecisive and undefinable. It groups unrelated conditions which may or may not be early cancer. Its acceptance entails the insoluble problem of establishing a dividing line between cancer and non-cancer as well as the insoluble problem of a statistical assay of lesions that are strictly individual
 - 9 A lesion may be cancerous regardless of its size and rate of growth
 - 10 Cancer is primarily an epithelial disease
 - 11 A cancer consists of mutated somatic cells
 - 12 The earliest visible manifestations are circumscribed, dyskeratotic lesions which microscopically are composed of polymorphous epithelial cells that proliferate, keratinize, and undergo mitosis in an abnormal manner
 - 13 Malignancy depends on a balance between the proliferative capacities of its cells and the control or resistance of the host.
 - 14 One tumor may contain several kinds of cells as the result of mutation following on mutation
 - 15 Early cancerous lesions are readily destroyed and cured. If all early lesions were suspected and destroyed the development of late lesions which may become incurable would be prevented
- In treating a patient with what he believes to be an early carcinomatous lesion the author removes the entire lesion as a cylindrical disk of dermis and epidermis by means of the actual cautery, taking with it a margin of normal tissue as narrow as he believes to be safe. He then sections the removed tissue and examines the prepared slide to determine that the excision has gone beyond the margin of the atypical growth laterally as well as in depth. In no case in which microscopic examination showed that the tumor was removed completely has a recurrence developed.

EMIL C. ROBITSHEK, M.D.

3 The intravascular cancerous contents were plainly not only the material from the original focus but an active growth

It therefore seems reasonable to assume that this extensive generalization was the evidence not so much of a massive sudden invasion as of a peculiar restricted type of cancerous progress which was confined to the blood and lymph channels. Evidently the presence of even large numbers of tumor cells in an organ is not invariably followed by metastatic growth. It seems reasonable to look for other local links to complete the causal chain, that is, local susceptibility or resistance to these foreign cells. The additional local susceptibility of the tissues to the presence of living tumor cells may be due either to differences in metabolism of different races of tumor cells, which will affect this reciprocal behavior, or to age-period differences in the local tissue susceptibility or irritability to the presence of these cells.

The author points out that so-called "aggressive" and "malignant" properties of tumor cells may be simulated and possibly explained by purely nutritive modifications which their presence imposes on a stationary differentiated tissue. No evidence of a specific anti-tumor cell body activity was found in the case reported.

The evidence of this case points also to the fact that cancer cells are not necessarily destroyed in the circulating lymph or blood of their host, but, on the contrary, may thrive therein. Only marked retardation or arrest of the blood and lymph streams affects their nutrition and growth adversely. Under these conditions nutriment which is needed in abundance by the rapidly multiplying cells falls below their requirements or is completely shut off.

JOSEPH K. NARAT, M.D.

Karitzky, B : Results of the Spread of Information on Cancer. A Clinical Contribution to the Cancer Problem and Cancer Propaganda. (Das Ergebnis der Krebsaufklärung. Ein klinischer Beitrag zum Krebsproblem und zur Krebspropaganda.) *Deutsche Ztschr. f. Chir.*, 1934, 243, 560.

On the basis of the 1,817 tumors operated upon at the Surgical Clinic of the University of Freiburg in the period from 1920 to 1933 Karitzky reports on the results of the spread of information on cancer problems among the laity in Baden.

By far the greatest number of persons who develop cancer are older than forty years and, more than half are over fifty years of age. An increase in morbidity has not been demonstrated. In recent years cancer has been appearing at an increasingly advanced age. It has decreased in the first 3 decades of life and increased in the seventh and eighth decades. The purpose of the spread of information regarding cancer among the laity is to bring the patient for treatment early and thereby improve the statistics of cure. From this standpoint externally visible tumors differ from tumors of internal organs. Benign tumors of the breast are included with breast cancers as the tendency to delay seeking

treatment is the same whatever the type of the tumor. If cancer propaganda is to be adjudged successful its results must be evidenced, above all, in a reduction of the period of delay, the interval between the appearance of the first signs of the disease and the beginning of clinical treatment.

The author's findings as regards the period between the first appearance of the symptoms of cancer and the treatment, the operability of the treated tumors, and the practical results of the spread of information on cancer are shown in a table. The criterion of success of the campaign to enlighten the public must be an increasing number of persons coming to the physician within three months after the appearance of suspicious symptoms. According to the findings of the author's investigations the cancer campaign has not yet been successful with respect to most tumors. The single exception is skin cancer, but in the second part of the period covered by the investigation almost half of the patients with this condition came to the clinic two years or longer after the beginning of the disease. In the case of externally visible tumors the period of delay of treatment can therefore be decreased. Breast cancer has not been influenced by enlightenment of the laity.

The author refers briefly to investigations on the total survival period of patients with tumor after the appearance of the initial symptoms. In cases of tumors of the same tissue structure and the same growth intensity the period of survival is about the same. Persons suffering from cicatrizing gastric cancer may survive for as long as twenty years. In cases of tumor of the internal organs no definite conclusions as to the duration of the disease can be drawn from the duration of the symptoms. The author discusses at length the conception of operability of tumors from the clinical standpoint. Most patients with cancer die with phenomena of stenosis. Death therefore occurs when the local tumorous process has healed and cicatrized and as the immediate result of this local spontaneous healing. A tumor is operable when it has given rise to no metastases and can be removed by operation without great danger.

Detailed researches on metastasis in cases of carcinoma of the mammary gland are reported. Bone metastases are next most frequent to lymph-gland tumors. Before radical operations were performed, local recurrence and metastasis occurred in cases of mammary carcinoma and bone metastases did not assume clinical importance because the patients died from the local recurrences. Since the radical operation has been performed and life has been thereby prolonged, death results from metastases in distant parts of the body in cases in which the treatment has not been successful. The tendency toward metastasis increases when the primary tumor becomes necrotic or ulcerates. With repetition of the process of metastasis, there is a progressive diminution of the time between the appearance of metastases.

Technical errors of organization cannot be held responsible for the failure of cancer propaganda. Public lectures on the cancer problem for the laity

fulfil, of themselves in most cases only purposes of publicity and are therefore worthless and dangerous. The constant warnings are not heeded in grave cases. The author believes that the lay public is developing a dislike for any information on medical matters. This raises the question whether mankind has obtained any benefit, considered purely from the standpoint of the lay person, from the dissemination of information on cancer. In earlier times persons succumbing to cancer died with the harmless diagnosis of old age, whereas today the correct diagnosis is made. Persons developing malignancy do not suffer so much from the organic symptoms as from the consciousness of having cancer.

Improvement in the incidence of cure is not to be expected from enlightenment of the public. This raises the question whether there is any justification for continuing the general spread of information regarding cancer. The author believes that there is no justification for it. He emphasizes that it is im-

possible to drive anyone to the doctor by causing him to fear a disease unless the doctor knows an effective means of curing the cause of the disease. He cites a number of cases of treatment of tumors by quacks and laymen. He states that efforts to instruct the laity regarding cancer has converted the fear of cancer always present in some persons into an epidemic cancer panic. It cannot be the mission of the physician to spread this panic by measures based on theory. For these reasons the proposal repeatedly made in recent times to subject all persons of cancer age to repeated examinations for the initial stages of the disease should be rejected until such time as the physician's own attitude toward the tumor problem is on a more reasonable basis and members of the medical profession come to regard tumor formation as an organic process characteristic of the body which has the possibility of developing harmfully and the harmful results of which can be prevented. (KABITZKY) FLORENCE ANNA CARPENTER

BIBLIOGRAPHY of CURRENT LITERATURE

NOTE—THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND.

SURGERY OF THE HEAD AND NECK

Head

- Confluent tumors of the scalp A G PORTO Bull et mém Soc nat de chir, 1935, 61 284
- The clinical picture of skull fracture (250 observations) A KARTANOVA Vestn Khir, 1934, 34 142
- The repair of the severed parotid duct C G BROHM and C E BIRD J Am M Ass, 1935, 104 733
- Tumors of the parotid A EGUES Bol inst de clin quir, 1934, 10 144
- Total removal of a mixed tumor of the parotid gland with division of the trunk of the facial nerve Preservation of the function of the upper facial muscles and progressive recovery of the lower facial muscles A JENTZER Rev méd. de la Suisse Rom, 1935, p 131
- Ankylosis of the mandible. P C TUNG and H I CHEN Chinese M J, 1935, 49 101
- Fracture of the superior maxilla X J DUBECQ J de méd de Bordeaux, 1934, 112 43
- A peculiar case of fracture of the upper jaw M MELCHIOR Ztschr f Stomatol, 1934, 32 1331
- The treatment of fractures of the jaw F EGGER Schweiz med Wchnschr, 1934, 2 1044
- Residual infection of the jaw R S TAYLOR Med Rec, New York, 1935, 141 291
- Malignancy of the upper maxilla H DUPUY South M J, 1935, 28 209
- Treatment of epithelial cancers of the mandible by electrocoagulation followed by radium irradiation L GERNEZ, P MOULONGUET, and L MALLAT J de chir, 1935, 45 337
- Prolonged resection of the lower jaw as treatment of cancer of this bone N V ÅKERBLUM Acta chirurg Scand, 1934, 75 513
- Plastic operations on the alveolar process of the upper jaw R SANDKUHL 1934 Leipzig, Dissertation
- A contribution on the results of resection of the upper and lower jaw D KUESTENDILSKI 1934 Leipzig, Dissertation

Eye

- Short studies on the history of ophthalmology B CHANCE Arch Ophth, 1935, 13 348
- Ocular dominance L F McANDREWS Arch Ophth, 1935, 13 449
- Cytoid bodies A J McLEAN Arch Ophth, 1935, 13 391
- Rising front bifocals I A WILLIAMSON-NOBLE Brit J Ophth, 1935, 19 165
- Some notes on the treatment of strabismus S R GIFFORD Brit J Ophth, 1935, 19 148
- The management of a case of convergent strabismus M DOBSON Am J Ophth, 1935, 18 226
- Orthoptic treatment of concomitant squint J B FELDMAN Arch Ophth, 1935, 13 419

Toxic amblyopia due to tobacco and alcohol; treatment with vasodilators, a report of eight cases F C CORDES and D O HARRINGTON Arch Ophth, 1935, 13 435

The bearing of embryology on clinical diagnosis in diseases of the eye. I MANN Irish J M. Sc, 1935, No 111, 128

Ocular manifestations of hepatic insufficiency E ADROGUÉ and J. A SENÁ Semana méd, 1935, 42 106.

The ocular manifestations observed in intracranial adamantinoma T B HOLLOWAY. Am. J. Ophth, 1935, 18 230

An improvement of Vogt's method of skeleton-free radiography of the bulb The creation of an exophthalmos M. KAEHLIN-SULZER. Brit J. Ophth, 1935, 19 91

Malignant exophthalmos and operative approach G W. SWIFT West J Surg, Obst & Gynec, 1935, 43 119

The treatment of glaucoma S R GIFFORD Canadian M Ass J, 1935, 32 287

Hereditary congenital ptosis F H RODIN and H BARKAN Am J Ophth, 1935, 18 213

The surgical treatment of ptosis of the eyelid W. S KISKADDEN Am J Surg, 1935, 27 499

Blepharochalasis B Y ALVIS Am J Ophth, 1935, 18 238

Essential shrinkage of the conjunctiva in a case of probable epidermolysis bullosa dystrophica M COHEN and M B SULZBERGER. Arch Ophth, 1935, 13 374

Epithelioma of the lower eyelid; a nine-year cure BÉRARD and COLSON Lyon chir, 1935, 32 61

A review of the aural and orbital complications of scarlet fever at the Philadelphia Hospital for Contagious Diseases from 1922 to 1934 H J WILLIAMS Ann Otol, Rhinol & Laryngol, 1935, 44 110

Pseudoxanthoma elasticum and angioid streaks W. L BENEDICT and H MONTGOMERY Am J. Ophth, 1935 18 205

Orbital abscess (following foreign body of the orbit) and meningitis with recovery M F MEYER and J. C ROELING Arch Ophth, 1935, 13. 445

Congenital cyst of the orbit F A KIEHLE. Am J Ophth, 1935, 18 257

A case of inflammatory pseudotumor of the orbit T COLLEY Brit J Ophth, 1935, 19 93

Paralysis of the serratus anterior muscle M VICTORIA Rev oto-neuro-oftalmol y de cirug neurol, 1935, 10 6

A new method for the surgical treatment of dacryocystitis C PEREIRA Rev brasil de cirug, 1935, 4 19

Bacillus-pyocyanus keratitis; report of three cases H A SHEARER Arch Ophth, 1935, 13 447

Intracorneal injections of cyanide of mercury in trachomatous pannus E S SHALOM Brit J Ophth, 1935, 19 107

The treatment of ulcer of the cornea C F YERGER Illinois M J, 1935, 67 267

Corneal graft B W RICEFROTH Proc Roy. Soc. Med, Lond, 1935, 28 523

- Transplantation of the cornea V P FILATOV Arch Ophth 1935 13 321
- Corneal transplantation on opaque corneas E O G KIRWAN Indian M Gaz 1935 70 61
- A case of b nocular subluxation of the lens in a child. H PAI Indian M Gaz 1935 70 81
- The chemical nature of cataract in the diabetic H U CAREY and H M HUNT New England J Med 1935 212 463
- The medical treatment of senile cataract A E DAVY Med Rec New York 1935 143 23
- Lid-control sutures in the intracapsular operation for senile cataract J L McCool South M J 1935 28 245
- Choroidal sclerosis A SOMMER Proc Roy Soc Med Lond 1935 28 526
- Pathological changes in the anterior half of the globe in cases of obstruction in the central vein of the retina B SACKETT Arch Ophth 1935 13 404
- Some practical points in the treatment of simple detachment of the retina H RIDLEY Brit J Ophth 1935 19 101
- The surgical treatment of retinal detachment S J MEYER Illinois M J 1935 67 230
- The technique of multiple micropuncture for the treatment of separated retina C B WALKER Am J Ophth 1935 18 246
- Edema of the retina due to acute maxillary sinusitis H DIVENTZAS Laryngoscope 1935 45 138
- Exudative retinitis H NEANE Proc Roy Soc Med Lond 1935 28 525
- Leukemic retinitis: an analysis of the eye changes in thirty five cases of leukemia together with a report of gross papilledema in a case of chronic myelogenous leukemia T J F FRANK Med J Australia 1935 1 364
- Sympathectomy for retinitis pigmentosa A E Mac DONALD and K G MCKENZIE Arch Ophth 1935 13 362
- Congenital coloboma of the macula together with an account of the familial occurrence of bilateral macular coloboma in association with apical dystrophy of the hands and feet A DRESBY Brit J Ophth 1935 19 65
- Familial macular degeneration P E WRIGHT Brit J Ophth 1935 19 160
- An improved eye needle C S PERRY Am J Ophth 1935 18 258
- A new therapeutic diathermy electrode F W LAW Brit J Ophth 1935 19 66
- Far**
- A low-cost portable audiometer M S FRISER F B CLEASON C M COATES and D MYERS Arch Oto laryngol 1935 21 335
- The deaf mute S FRANKLIN Lancet 1935 328 310
- The pathology of otosclerosis with a report of cases E W HAGENS Arch Otolaryngol 1935 21 297
- An analysis of over 4,000 cases of educational deafness studied during the past twenty five years M YEASELBY Brit J Child Dis 1935 32 23
- Diathermy in the treatment of chronic deafness description of a new technique D M YAGHAN Laryngoscope 1935 45 230
- Otitis with mental atresia with the description of an operation for its correction: a report of two cases J R. HEW and N OWENS Ann Otol Rhinol & Laryngol 1935 44 213
- Diseases of the external ear C N DEZER J Med Soc New Jersey 1935 32 130
- Otomycosis in Hawaii C W FREYLER Laryngoscope 1935 45 106
- Fissura ante fenestram: its form and contents in ea by life B J ANDSON and J MARTIN JR Arch. Otolaryngol 1935 21 303
- The cellular character of the temporal bones: its clinical and surgical significance C F ZIEGLER Ann Otol Rhinol & Laryngol 1935 44 3
- The diagnosis of pseudomastoiditis R B GARCIA Clin ylab 1935 29
- The diagnosis of acute mastoiditis H I LAPP Colorado Med 1935 32 202
- Berold's mastoiditis cholesteatoma with an intact tympanic membrane N A JORY Proc Roy Soc Med Lond 1935 28 545
- Staphylococcus albus septimicus secondary to mastoiditis and sinus thrombosis: Operation and recovery Case report G D WOLF Laryngoscope 1935 45 127
- Acute otitis media acute mastoiditis Schwartz's operation the onset of meningitis during convalescence pneumococci from the cerebrospinal fluid recovery F C W CAPPS Proc Roy Soc Med Lond 1935 28 545
- Acute mastoiditis meningitis T H JOUR Proc Roy Soc Med Lond 1935 28 546
- Discussion on meningitis of otitic origin T B LAYTON N JORY C P SYMONS E WATSON WILLIAMS and others Proc Roy Soc Med Lond 1935 28 520
- Meningitis from the petrous apex and the sphenoidal basis W I EAGLETON J Med Soc New Jersey 1935 32 125
- Streptococcal meningitis secondary to acute suppurative otitis media simple mastoidectomy recovery E WATSON WILLIAMS Proc Roy Soc Med Lond 1935 28 547
- The Gradenigo syndrome and suppuration of the cerebral ventricles as complications of acute suppurative otitis media Report of a case with autopsy findings E K MITCHELL and A SILVERSTEIN Laryngoscope 1935 45 214
- The diagnosis of acute suppuration of the petrous pyramid C EVES Ann Otol Rhinol & Laryngol 1935 44 97
- A report of ten cases of suppuration in the petrous pyramid S J KOPETZKY and J ALMOND Ann Otol Rhinol & Laryngol 1935 44 9
- Operative isolation of the petrous bone E A PETERS Proc Roy Soc Med Lond 1935 28 544
- Temporopetrous abscess drainage, recovery M SOMMER Proc Roy Soc Med Lond 1935 28 546

Nose and Sinuses

- The correction of recent and old fractures of the nose G H COY Laryngoscope 1935 45 183
- Calcium: its metabolism and deficiency as a rhinological and otolaryngological problem H G KRESTON Virginia M Month 1935 61 694
- The external nose as a seat and source of trouble W L WELLS Ann Otol Rhinol & Laryngol 1935 44 100
- The effect of phenol in hyperesthetic rhinitis with a tissue study of the nasal mucosa A PALMER Ann Otol Rhinol & Laryngol 1935 44 25
- Five cases of rhinospondylitis four in females F R W ALLEN Indian M Gaz 1935 0 70
- A case of nasal myiasis A K GHOSH Indian M Gaz 1935 70 77
- Screw worm infection of the nasal mucosa case report R W RICHARDSON J Med Ass Georgia 1935 21 100
- Tertiary syphilitic infiltrative lesions of the nasal mucosa I M LEPTON Ann Otol Rhinol & Laryngol 1935 44 190
- Rhinopharyngeal palpation in acute and subacute adenoiditis J A CALANCA Semana med 1935 43 290

Malignant tumors of the nasal mucosa. L W PRICE [6]
 J Laryngol & Otol, 1935, 50 153
 Hydrostatic ionization of the nose C K GALT Laryngoscope, 1935, 45 110
 Experiences in ionization of the nasal mucous membrane. H G TOBIAS. Ann Otol, Rhinol & Laryngol, 1935, 44: 94

Notes on the submucous resection of the nasal septum. H L BERMAN Laryngoscope, 1935, 45 184
 Some improvements in sinus diagnosis L. T. OAKS. Laryngoscope, 1935, 45 198
 Prolapse of the mucosa of the paranasal sinuses G FORNARI Riforma med, 1935, 51 87
 Frontal headache due to sinusitis F A LIJ. Clin y lab, 1935, 20

Chronic sinusitis in children, diagnosis and treatment; case reports W SPIELBERG Laryngoscope, 1935, 45 114
 Chronic suppurative sinusitis, a point of view as to treatment H I LILLIE Arch Otolaryngol, 1935, 21 272
 Fulminant sinus disease, a study of the pathogenesis F L LEDERER Surg, Gynec & Obst, 1935, 60 645
 Allergy and its relationship to sinusitis and allied nasal conditions A I COHEN Arch Otolaryngol, 1935 21 265

Mucocoeles of the frontal sinus J A CAVANAUGH Laryngoscope, 1935, 45 295
 The problem of the ethmoid G M COATES Ann Otol, Rhinol & Laryngol, 1935, 44 42
 One thousand sphenoid bones examined in both the Granger and mentovertebral positions A GRANGER Radiology, 1935, 24 357
 Maxillary sinusitis, a statistical investigation I B THORBUCK and L L RATAZZI. J. Laryngol & Otol, 1935, 50 185

Mouth

Intra-oral cancer and its treatment O N MELAND Radiology, 1935, 24 276
 Clinical oral electrosurgery A J ASGIS Med Rec, New York, 1935, 141 287
 Prosthesis following resection of the upper jaw, with particular reference to the technical restoration R GROHS Deutsche Zahn- usw Heilk, 1934, 1 301
 Simple glandular cheilitis or Puente's disease R BERNARD Bruxelles méd, 1935, 15 458 [6]
 The results of palatoplasty by the method of Victor Veau on the basis of 100 cases K F P MUELLER 1934 Leipzig, Dissertation [6]
 A verrucose lymphangioma of the tongue extending into the jaw C JULIARD Rev méd de la Suisse Rom, 1935, p 141
 Carcinoma of the lingual thyroid L M LEVI and F D HANKINS Am J Cancer, 1935, 23 328 [7]
 Sublingual epithelial cyst, report of a case J B HITZ Arch Otolaryngol, 1935, 21 338
 A case of sublingual lipoma L MATLOS Rev méd de Barcelona, 1935, 12 31

Pharynx

Laryngeal and esophageal atavism in man as indicated by the probable phylogenesis of the hypopharyngeal receptacle concerned in the act of deglutition L Z FISHMAN Ann Otol, Rhinol & Laryngol, 1935, 44 139
 The treatment of peritonsillar abscess E SAVARESE Polichia, Rome, 1935, 42 sez prat 371
 The tonsils as foci of systemic infection H A NISSEN Ann Otol, Rhinol & Laryngol, 1935, 44 187
 Total or partial tonsillectomy M CALDERIN Med Ibera, 1935, 19 204

Triplegia following tonsillectomy, embolic occlusion of the arteries of the spinal cord. M B. BRAHMA. Am. J. Dis Child, 1935, 40 716
 Some considerations of adenoid bleeding. L RICHARDS Ann Otol, Rhinol & Laryngol, 1935, 44: 117

Neck

The etiology of the vascular symptoms of cervical rib D. M. BLAIR, F DAVIES, and W McKISOCK. Brit J Surg, 1935, 22 406 [7]
 Fibrous tumor of the neck BÉRARD Lyon chir, 1935, 32 113
 A large fibroma of the neck BÉRARD and COLSON. Lyon chir, 1935, 32 112
 Branchial carcinoma, lateral cervical neoplasm. G CPILL and J E KEARNS, JR Surg, Gynec & Obst, 1935 60 703
 The thyroid gland A E DALE Internat J Med & Surg, 1935, 48 54
 The pharmacology of the thyroid W O THOMPSON P K THOMPSON, S G TAYLOR, III, S B NADLER, and L F N DICKIE J Am M Ass, 1935, 104 972
 Hyperthyrmization and experimental hyperthyreosis H HANKE and E WIDMANN Deutsche Ztschr f Chir, 1934, 243 772
 The management of hyperthyroidism E V MASTIN J Missouri State M Ass, 1935, 32 98
 Experiences in the irradiation treatment of hyperthyroidism S P PERRY Radiology, 1935, 24 326
 Congenital goiter L UNTERRICHTER Deutsche Ztschr f Chir, 1934, 244 85
 Goiter, a continuous disease J D MARTIN, JR, and D C ELKIN Am J Surg, 1935, 27 455
 Nodular or adenomatous goiter J W HENDRICK. Texas State J M, 1935, 30 698.
 The present status of the control of goiter in Switzerland F DE QUELIN Muenchen med Wchnschr, 1934, 2 1020
 The radiologist and the goiter problem J W CATHCART Texas State J M, 1935, 30 703
 The differential diagnosis of Graves' disease C S D DOV Practitioner, 1935, 134 352
 Thyrotoxicosis with unilateral exophthalmos, hyperpituitarism, and infantile hemiplegia C WORSTER-DROUGHT Proc Roy Soc Med, Lond, 1935, 28 515
 Basedow's syndrome and infantile encephalopathy LABBÉ, BOULEN, UHRY, and BALMUS Bull et mcm Soc. méd, d hop de par, 1935, 51 28
 Tuberculosis of the thyroid gland and Basedow's disease W SEHMSCH Deutsche Ztschr f Chir, 1934, 243 693
 The pre-operative and postoperative treatment of the toxic patient E C CUTLER J Michigan State M Soc, 1935, 34 139
 The action of iodine in thyrotoxicosis J H MEANS and J LERMAN J Am M Ass, 1935, 104 969
 Thyroid adenoma in experimental animals. C. A. HELLWIG Am J Cancer, 1935, 23 550
 Carcinoma of the thyroid gland L B POTTER and W R MORRIS Am J Surg, 1935, 27 546
 Total thyroidectomy in the treatment of angina pectoris and cardiac decompensation Riforma med, 1935, 51 61
 Hemorrhage during operations, especially thyroidectomy A R SHORT Brit M J, 1935, 1. 202
 Parathyroidism A McMAHON J Oklahoma State M. Ass, 1935, 28 87
 Parathyroidectomy for Raynaud's disease and scleroderma A R BERNHEIM and J H GARLOCK Ann Surg, 1935, 101 1012 [8]
 Parathyroidectomy in the treatment of ankylosing polyarthritis and chronic rheumatism, technique, mode of

action indications M HENRY Presse méd Par 1935 43 262

The effect of radium emanations on the laryngeal cartilage M F ARBuckle, F V COWDREY, and R VOTAW Arch Otolaryngol 1935 21 249 [8]

Dysphonia plicae ventricularis phonation with the ventricular bands C JACKSON and C L JACKSON Arch Otolaryngol 1935 21 157 [9]

Local tumor like deposits of amyloid in the larynx report of a case with a review of the literature P KRAMER and M L SOW Arch Otolaryngol 1935 21 324 [10]

A case of laryngeal endothelioma F H DINGLE J Laryngol & Otol 1935 50 204

Carcinoma of the larynx surgical considerations S SALINGER Laryngoscope 1935 45 174 [10]

The treatment of carcinoma of the pharynx and larynx L H CARLAND Radiology 1935 24 67

Carcinoma of the larynx some conclusions derived from personal experience J C BECK and M R GUTMAN Laryngoscope 1935 4 163 [11]

The evaluation of the roentgen treatment of laryngeal carcinoma report of cases I S HIRSCH and S M HANAU Radiology 1935 24 281

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings Cranial Nerves

The demonstration of normal cerebral structures by means of encephalography V The ventricles intervene in the foramina and aqueduct of Sylvius L M DAVY DORR and C G DYER Bull Neurol Inst New York 1935 4 92

Observations on head injuries L W JOHNSON Am J Surg 1935 27 518

Skull fractures and cranial injuries their treatment and sequelae O J EAY West J Surg Obst & Gynec 1935 43 150

Disturbance of cerebral function in concussion C P SIMONIS Lancet 1935 228 486

Cerebral complications of fracture of the base of the skull L IRIBARREN Semana méd 1935 42 348

The pathology of traumatic cerebral hemorrhage and its medicolegal significance O BERNER Norsk Mag f Lægevidensk 1935 94 1313

Spontaneous subarachnoid hemorrhage report of twelve cases M G MASTEN Wisconsin M J 1935 34 168

The surgical treatment of epilepsy F SCHUBERT WALTHER Wien med Wchnschr 1934 2 1180 [12]

Three cases of tuberculosis of the central nervous system followed by apparent clinical recovery A R MACGREGOR II J R KIRKPATRICK, and W S CRAIG Edinburgh M J 1935 42 101

The diagnosis and treatment of abscess of the brain S SCOTT J Laryngol & Otol 1935 50 100 [12]

The clinical aspects and treatment of brain abscesses L PUTTNER Fol neurolat eston 1934 15 66 [12]

Abscess of the brain a report of five consecutive recoveries with special reference to fibrous drain and pneumographic visualization of the abscess cavity A KAPLAN Arch Otolaryngol 1935 21 385 [13]

Tumors of the brain J M DE VILLAVERT Med Ibera 1935 19 23

The pathology of cerebral angiomas A WOLF and S BRICK Bull Neurol Inst New York 1935 4 344

The diagnosis and treatment of intracranial tumors F MURPHY Med J Australia 1935 1 137

The recognition and treatment of intradural hematomas W TOENNES Zentralbl f Chir 1934 p 2543

Tumors of the hypophyseal canal and related neoplasms (chondroma) F HARRITT Norsk Mag f Lægevidensk 1934 95 745

Acoustic tumor? Ménière's syndrome a case for diagnosis M WESLEY Proc Roy Soc Med Lond 1935 28 545

The prognosis in intracranial tumors J E. PATERSON Clin J Surg 1935 123 413

The cerebrospinal fluid obtained by lumbar and ventricular puncture in tumors of the brain C C HARE Bull Neurol Inst New York 1935 4 64

The treatment of intracranial tumors N C SETTON Med J Australia 1935 1 147

The effect of extirpation of the cortex of one hemisphere of the brain on conditioned eye reflexes and the visual field in dogs R M ROSENWEIG Acta med Scand 1935 84 401

Meningeal tuberculosis W BROWN Edinburgh M J 1935 42 126

Meningeal tuberculosis seasonal age and sex incidence I M CRACKEN Edinburgh M J 1935 42 131

Meningeal tuberculosis bacteriology and pathology A R MACGREGOR II J R KIRKPATRICK and W S CRAIG Edinburgh M J 1935 42 133

Cerebrospinal fluid in tuberculous meningitis J G CLARK Edinburgh M J 1935 42 146

Meningeal tuberculosis as a terminal feature in pulmonary tuberculosis C CAMEROV Edinburgh M J 1935 42 154

Arachnoiditis of the medulla I DE GASPERT and M C LLOYD Clin y lab 1935 20

The sense of smell Introduction C A ELSBERG Bull Neurol Inst New York 1935 4 1

The sense of smell I A new and simple method of quantitative olfactometry C A ELSBERG and I LEVY Bull Neurol Inst New York 1935 4 5

The sense of smell II A new principle for the classification of odors based upon their olfactory coefficients C A ELSBERG I LEVY and F D BREWER Bull Neurol Inst New York 1935 4 20

The sense of smell III The relation between the olfactory coefficients and boiling points of odoriferous substances C A ELSBERG I D BREWER and I LEVY Bull Neurol Inst New York 1935 4 6

Trigeminal neuralgia J HALLANAU Presse méd Par 1935 43 331

Major trigeminal neuralgia F C CRANT Am J Surg 1935 27 450

The indications for treatment and the injection treatment with small doses of alcohol into the gasserian ganglion for trigeminal neuralgia HARETEL Zentralbl f Chir 1934 p 2787

A new needle for injection into the nasopharyngeal ganglion C F CRANDLER Arch Otolaryngol 1935 21 341

The palatine access to the ganglion sphenopalatinum and to the second branch of the trifacial nerve S S AYENBERG I S BREVIDA D V LUBSKY and O S SEVENOR Ann Surg 1935 101 810 [13]

The pathways of reflex pain in vidian neuralgia H H VAIL Arch Otolaryngol 1935 21 477

Neurofibroma of the hypoglossal nerve L. FRIDMAN and A. A. LISINSBERG. *Ann Surg*, 1935, 101: 834 [13]

Spinal Cord and Its Coverings

The sweating reaction occurring in patients with diseases of the spinal cord; report of a study of the reaction produced by the injection of pilocarpine hydrochloride C. B. CRAIG and C. C. HART. *Arch Neurol & Psychiat*, 1935, 33: 478

Spina bifida with myelomeningocele B. A. COOK. *Med J Australa*, 1935, 1: 148

The pathology of the spinal dura mater (hematoma and internal hemorrhagic pachymeningitis) E. RUTISHAUSER. *Ann d'anat path*, 1935, 12: 51

The surgical treatment of intramedullary spinal cord tumors STILDA. *Zentralbl f Chir*, 1934, p. 2525

Repeated lumbar punctures of spinal drainage W. SHARPE. *J Am M Ass*, 1935, 104: 950

Peripheral Nerves

Hypothermia in cases of hypothalamic lesions C. DAVISON and N. E. SELBY. *Arch Neurol & Psychiat*, 1935, 33: 570

A classical case of lead palsy W. HARRIS. *Brit M J*, 1935, 1: 103

Hourglass tumors R. FALTIN. *Finska Läk sällsk Hdl*, 1934, 76: 233

A tumor of the sheath of the median nerve of a patient previously treated for malignancy of the axilla B. FRARD, CREYSEL, and DARGENT. *Lyon chir*, 1935, 32: 115

Partial dystrophic gigantism of the hand secondary to a neurinoma of the median nerve A. BARATBI and F. R. RUIZ. *Rev méd d Rosario*, 1934, 24: 1243

Resection of the infraclavicular nerve O. MONOD. *Presse méd. Par*, 1935, 43: 299

The effect of bilateral extirpation of the occipital lobes on conditioned facial reflexes B. M. ROSENZWEIG. *Acta med Scand*, 1935, 84: 386

Sympathetic Nerves

Ganglioneuroma A. PLZIK. *Rozhl Chir a Gynaek Č chir*, 1934, 13: 181

Indications for operation on the sympathetic nervous system KUNTZIN. *Zentralbl f Chir*, 1934, p. 2518

Stellate ganglionectomy J. A. CAEIRO. *Semana méd*, 1935, 42: 557 [14]

The results of venous sympathectomy ten years ago M. MERRY. *Bull et mcm Soc nat de chir*, 1935, 61: 249

Miscellaneous

Trauma and the nervous system I. S. WACHSLER. *J Am M Ass*, 1935, 104: 510

Neurosurgery in children and adolescents TORNIS. *44 Tag d Deutsch Ges f Kinderheilk*, 1934

SURGERY OF THE CHEST

Chest Wall and Breast

The human breast and its function L. R. DEBUIS. *South M J*, 1935, 28: 272

A roentgenological study of the female breast A. BRANCHI. *Radiol med*, 1935, 22: 167

A case of gynecomastia A. C. DEY. *Indian M Gaz*, 1935, 70: 77

A case of gyncomastia S. RAMDAS. *Indian M Gaz*, 1935, 70: 78

Gynecomastia in hepatic cirrhosis J. M. G. GALIÁN. *Clin y lab*, 1935, 20

A case of bleeding breast E. J. RONCORONI. *Bol Soc de cirug de Rosario*, 1934, 1: 421

Chronic cystic mastitis. Practical management in a cancer clinic H. ROGERS and I. T. NATHANSON. *New England J Med*, 1935, 212: 551

Breast tumors B. A. NFLSON. *J Kansas M Soc*, 1935, 36: 101

A case of liponecrosis of the breast with xanthomatous degeneration B. PAGGI. *Policlin*, Rome, 1935, 42: sez chir 102 [15]

Borderline breast tumors, biopsy and postbiopsy treatment J. C. BLOODGOOD. *J Am M Ass*, 1935, 104: 439 [15]

Classification of malignancy of the breast. I. The prognostic importance of histological factors TORO. *Arch di ostet e ginec*, 1935, 42: 17

A study of carcinoma of the breast W. GOLDSCHMIDT. *Wien med Wchnschr*, 1934, 2: 1236

Carcinoma of the breast J. J. NOONAN. *J Iowa State M Soc*, 1935, 25: 131

Bilateral carcinoma of the breast. M. COLITZA. *Spitalul*, 1934, 54: 122

Ten years of surgery for cancer of the breast W. A. COVENTRY and R. J. MOE. *Minnesota Med*, 1935, 18: 131

Trachea, Lungs, and Pleura

Principles underlying ciliary activity in the respiratory tract. III. Independence of tracheal cilia *in vivo* of drug and neurogenous stimuli A. M. LUCAS and L. C. DOUGLAS. *Arch Otolaryngol*, 1935, 21: 285

Fungous diseases of the lungs A. Q. PENTA. *J-Lancet*, 1935, 55: 131

Pulmonary manifestations in human tularemia. A clinical study S. D. BLACKFORD. *J Am M Ass*, 1935, 104: 891 [16]

Pulmonary manifestations in human tularemia. A roentgenological study V. W. ARCHER, S. D. BLACKFORD, and J. E. WISSLER. *J Am M Ass*, 1935, 104: 895 [16]

The surgical treatment of tracheobronchial diphtheria J. D. FOURS. *Ohio State M J*, 1935, 31: 184

Metastatic echinococcus cyst of the lung P. PAGNIEZ, A. PUCHET, R. LAPLANE, and P. SALLES. *Bull et mcm. Soc méd d hop de Par*, 1935, 51: 221

Gigantic enlargement of the tracheobronchial lymph vessels in a tuberculous adult G. BATTIGELLI. *Radiol med*, 1935, 22: 173

The treatment of very large tuberculous pulmonary cavities LEBSCH. *Zentralbl f Chir*, 1934, p. 2216

The general principles of surgical treatment for pulmonary tuberculosis and bronchiectasis H. M. DAVIES. *Irish J M Sc*, 1935, No. 111: 97

Thoracoplasty and surgery in tension pneumothorax. BIEBL. *Zentralbl f Chir*, 1934, p. 2288

Experimental studies on pulmonary suppuration J. J. LONGACRE and L. G. HERRMANN. *Arch Surg*, 1935, 30: 476

Experimental abscess of the lung M. CANAVERO. *Policlin*, Rome, 1935, 42: sez chir 1

The treatment of lung abscess F. G. CHANDLER. *Brit M J*, 1935, 1: 429

Congenital bronchiectasis S SCHNEIDERGER Frankfurt
Ztschr f Path 1934 4, 276

Attempts to produce bronchiectasis experimentally
E FIORINI Polichin Rome 1935 42 sez chir 83 [17]

A case of bronchiectasis with thrombosis of the bronchial
artery M LÉON KJNDBERG and G DREYFUS-SÉE Bull
et mém Soc méd d hop de Par 1935 51 43

The roentgen demonstration of cysts in the upper air
passages. H F TAYLOR and L NATHANSON Ann Otol
Rhinol & Laryngol 1935 44 170

Three cases of isolated congenital suppurative cyst of
the lung SEPERT, DURAND KOCILSKY and PATALANO
Bull et mém Soc méd d hop de Par 1935 51 305

A voluminous gaseous cyst of the lung of a twelve year
old child BERNARD TRIBOULET THOREL, and MANUEL
Bull et mém Soc méd d hop de Par 1935 51 343

New growths in the lung J MAXWELL Brit M J
1935 1 369

Extramedullary plasma-cell tumors of the upper air
passages W J MATTICE and A A TUBAUDREAU Am
J Cancer 1935 23 313

Primary carcinoma of the lung. G BECCINI Polichin
Rome 1935 42 sez med 89

Primary carcinoma of the lung, in the domestic fowl
F L APPERLY Am J Cancer 1935 23 536

Carcinoma of the air passages and its relation to occu-
pation KOELSCH Arch f Cewerhepith 1934 5 454

Hemorrhage in lung cancer a fatal case following bron-
choscopy F L LINDERER Ann Otol Rhinol & Laryngol
1935 44 157

Surgery of the lung root L O SHALGINESKY Lancet
1935 228 476 [17]

The technique of one stage lobectomy R MONOD and
J DEMIRLEAU J de chir 1935 45 370 [18]

Respiratory obstruction following spontaneous surgical
emphysema J COOK Lancet 1935 228 547

Emphysema J FRASER Brit M J 1935 5 213

Emphysema in children with an analysis of 103 cases.
J M MASON South M J 1935 28 219

Acute emphysema in childhood J N RAY Indian M
Caz 1935 70 79

Tuberculous emphysema A DELACLA A RENZO B DE
CAVALLO and C PENA Polha med 1935 16 25

Staphylococci emphysema and pyopneumothorax patho-
genesis pathology symptoms and treatment H NELSON
and H HERCK Arch Surg 1935 30 543

Emphysema complicating a new growth of the lung F T
BAKER BATES and C K ELLIS Lancet 1935 228 676

A case of chronic thoracic emphysema treated with mag-
gots W BETHUNE Canadian M Ass J 1935 32 301

Emphysema rib resection with open drainage versus the
non-open method D C DONALD South M J 1935
28 224

Heart and Pericardium

Traumatic rupture of the heart and intraperitoneal
structures S C HANAFS Am J Surg 1935 27 503

Surgical treatment of foreign bodies in the heart. V A
UGOV Semana med 1935 42 157

The diagnosis and treatment of acute pericardial disease
K S SMITH. Fractitioner, 1935 134 194

Traumatic pericarditis COETZE Zentralbl f Chir
1934 p 2462

Fluoroscopic observations in acute and chronic peri-
carditis G COLA Radiol med 1935 22 125 [18]

Problems of adhe ive pericarditis M SCHERZ Ergeln
d inn Med u Kinderh 1934 47 543

Pericardiectomy for adhesive pericardium. H VERNON
Ann Surg, 1935 101 916

Esophagus and Mediastinum

Achalasia of the esophagus. K H TALLERMAN Proc
Roy Soc Med Lond 1935 3 412

Congenital esophag al stricture W M FELDMAN
Proc Roy Soc Med Lond 1935 28 410

Diverticulum of the esophagus C LOGGERS Ann
Surg 1935 101 935

Diverticulum of the esophagus ligation of the pedicle
resection recovery J AXIE Semana med 1935 42 317

The pathogenesis and treatment of mega-esophagus
M MAURO Polichin Rome 1935 42 sez chir 23

Peptic esophagitis A WINKELSTEY J Am M Ass
1935 104 906

Esophago-esophageal fistula of syphilitic origin L BAZY
and P CHÉNE J de chir, 1935 45 379

Resection of the thoracic portion of the esophagus for
chronic ulcer C LOGGERS Ann Surg 1935 101 940

Adenoma of the esophagus H J MOERSCH and A C
DROFFER Arch Otolaryngol 1935 1 163 [19]

Experimental and anatomical studies of artificial fixation
of the mediastinum by the method of Rehn A PUCK
JWERS Deutsche Ztschr f Chir 1934 233 584

Mediastinal dermoid R W B ELLIS Proc Roy Soc
Med Lond 1935 28 448

Mediastinal ganglioneuroma I. SOPHAN Ann Surg
1935 101 847 [19]

Miscellaneous

An unusual intrathoracic foreign body A CAMPBELL
Brit J Radiol 1935 8 196

Diseases of the diaphragm DEL BARRIO MORINO
Proc de la clin Madrid 1935 23 97

Two cases of diaphragmatic hernia F SCHWELER
Zentralbl f Chir 1934 p 1592

Diaphragmatic hernia H N THIEV J Kansas M
Soc 1935 36 95

The diagnosis of intrathoracic tumors C L HARRIS
J Lancet 1935 55 159

The value of the roentgen rays in the diagnosis and
surgical treatment of extrapulmonary intrathoracic tumors
W HARRINGTON Am J Roentgenol 1935 33 310

Thoracic surgery some recent advances Bull. New
Zealand M J 1935 34 15

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

A strangulated hernia N K CHHAYANI Indian
M Gaz 1935 70 81

Pygalic hernia with the clinical picture of cardiac
failure H KJAREKARD Uppsal J Lager 1934 p 875

Cysts in or on the surface of hernial sacs. G H FORDOSY
Lancet 1935 215 670

Intra abdominal perforation of a strangulated inguinal
hernia reduced by taxis MIALARET Ann d anat path.
1935 12 95

Operation for crural hernia by the inguinal route and its
late results B HERZBERG Arch ital di chir 1935 37 61 [20]

A case of incarcerated crural hernia cured by opera-
tion L ADOLPHY Orvostudok 1934 24 213 [20]

- The repair of postoperative hernia J P GRIENHILL
Am J Surg, 1935, 27: 523.
- Recurrence following operation for inguinal hernia. K O
PETERS Arch f Klin Chir, 1934, 181: 294
- A method of closure of the abdominal wall after sub-
umbilical laparotomy. The technique of Willie. J
BARANGER. Rev de chir, l'ar, 1935, 54: 69
- A modification of Lithetson's operation. R S MELVILLE
Brit M J, 1935, 1: 467
- Primary non-specific peritoneal serositis and an acute
condition of the abdomen S SOLIERI. Policlin, Rome,
1935, 42. sez prat 308
- The significance of anaerobic organisms in peritonitis due
to liver autolysis, a bacteriological study of the peritoneal
exudates H. M. TRUSHIER, J R KLEVES, and H E
MARTIN Arch Surg, 1935, 30: 371 [20]
- The problem of draining the abdominal cavity in cases
of general peritonitis M G BREITMAN Ann Surg,
1935, 101: 662 [21]
- Success and failure in diffuse peritonitis W. BENTIN
Deutsche med Wchnschr, 1934, 2: 1421
- Vascular bases for the study of the pathology of the
great omentum C V NAPIO Bol inst de clin quir,
Univ de Buenos Aires, 1934, 10: 132
- Torsion of the great omentum, suppurative epiploitis
A DUSSANT Semana med, 1935, 42: 343
- A primary solitary hydatid cyst of the great omentum
simulating an ovarian cyst N ARENAS Semana med,
1935, 42: 327
- Lymphangiomata of the great omentum A H MONT-
GOMERY and I J WOLMAN Surg, Gynec & Obst, 1935,
60: 695
- A dermoid cyst of the lesser omental bursa K MEYER
and P SHAPIRO Am J Surg, 1935, 27: 551
- Teratoma of the lesser omentum J KOWALCZYK Polski
Przegl chir, 1934, 13: 424
- The mesenterium commune A RUNCO Radiol med,
1935, 22: 147 [21]
- Volvulus, torsion of the whole mesentery H M Mc-
CLURE J Oklahoma State M Ass, 1935, 28: 100
- The pathogenesis of fibrous retractile mesenteritis S
MILOVE and A PICCO Arch ital di chir, 1935, 39: 117 [21]
- Retractile mesenteritis, its pathogenesis and diagnosis
M. CORACHAN Clin y lab, 1935, 20: 29
- Mesenteric lymphadenitis simulating acute appendicitis,
a quantitative study of the size of normal mesenteric lymph
nodes C H MEAD Arch Surg, 1935, 30: 492 [22]
- A mesenteric cyst causing subacute obstruction J B G
MUIR Lancet, 1935, 228: 742
- Bleeding malignant polypoid lesions in the cardia of the
stomach. J T. PRIESTLEY and F J HECK Ann Surg,
1935, 101: 830.
- The controversy over the pylorus Also a contribution
on the subject of hydrochloric acid and gastric ulcer.
M FRIEDMAN. Zentralbl f Chir, 1934, p 2658 [22]
- A modified Rammstedt operation W L WOLFSON
Ann Surg, 1935, 101: 665
- Tetanus of gastric origin due to an old stenosis of the
pylorus L. BÉRAUD and M BÉRAUD Lyon chir, 1935,
32: 101
- The technique of the Weber-Rammstedt operation for
pylorospasm in infants R FUCHS Zentralbl f Chir,
1934, p 2710
- Chronic gastritis A clinical discussion based on gastro-
scopic examination E B BENEDICT New England J
Med, 1935, 212: 468 [23]
- Peptic gastritis F BRECHNER Deutsche med
Wchnschr, 1934, 2: 1460 [24]
- Syphilis of the stomach A review of thirty-five selected
cases L C PUSCH Internat Clin, 1935, 1: 56
- The experimental production of acute ulcerative gas-
tritis by the parenteral administration of atophanyl H
HANKE Internat Clin, 1935, 1: 233
- The roentgenological diagnosis of ulcers of the stomach
and duodenum J SÉVÈQUE Bull et mém Soc nat de
chir, 1935, 61: 289
- The secretion of mucus and acid by the stomach in
healthy persons and in persons with peptic ulcer H
NICHOLS and A COYNE Arch Int. Med, 1935, 55: 395
- A gigantic ulcer of the stomach G PRCO and F I
FERREIRA Semana med, 1935, 42: 102
- Ulcer of the stomach and duodenum W KNOBLOCH.
1933 Giessen, Dissertation
- Bleeding peptic ulcer W. M. FOWLER and H M HURE-
VITZ J Iowa State M Soc, 1935, 25: 115
- Massive hemorrhage in peptic ulcer J W HINTON
Ann Surg, 1935, 101: 856
- Massive hemorrhage in peptic ulcer T CHRISTIANSEN
Acta med Scand, 1935, 84: 374
- Autopsy findings in death following hemorrhage from
gastric and duodenal ulcers E HJORT Norsk Mag f
Lægevidensk, 1934, 95: 542
- The development and treatment of peptic ulcer, an
experimental study F R HARPER Arch Surg, 1935,
30: 394
- Indications for the treatment of gastric and duodenal
ulcers J HOLST Norsk Mag f Lægevidensk, 1934, 95:
515
- The clinical treatment of gastroduodenal ulcers with
histidine STOLZ Bull et mém Soc nat de chir, 1935,
61: 245
- The effect of histidine on gastroduodenal ulcers B
DESPLAS, J LIGNORMAND, and R FOURNIAL Bull et
mém Soc nat de chir, 1935, 61: 233
- The treatment of gastroduodenal ulcers with histidine
The results of two years' experience A STOLZ and A G
WEISS Bull et mém Soc nat de chir, 1935, 61: 237
- Scurvy during treatment for gastric ulcer B BARLING.
Brit M J, 1935, 1: 358
- The operative treatment of gastric and duodenal ulcer
K NICOLAYSEN Norsk Mag f Lægevidensk, 1934, 95:
533
- Conservative and radical surgery in gastric and duo-
denal ulcers H V DE PAULA Rev brasil de cirug,
1935, 4: 1
- Gastrectomy for ulcer R DENIS Lyon chir, 1935,
32: 81
- Fifty-four gastrectomies for chronic ulcer of the stomach
and duodenum. DUVAL Lyon chir, 1935, 32: 74.

Gastro-Intestinal Tract

- The formation of stones in the gastro-intestinal tract
following the administration of barium C NOE TANG
PETERSEN Ugesk f Læger, 1934, p 945
- The place of surgery in the treatment of carcinoma of
the alimentary tract D C BALFOUR Canadian M Ass
J, 1935, 32: 245
- Injury to the stomach following the ingestion of acid and
its treatment H BOEKEMANN 1934 Cologne, Dissertation
- Gastric ptosis and its surgical treatment by the Perthes-
Vogel and Coffey-Beyea operations G SERRA Arch ital
di chir, 1935, 39: 141
- Hourglass stomach associated with esophageal stenosis
W W SAGER and W H JENKINS Ann Surg, 1935, 101:
969
- Methods of study of the cardia B HERZBERG and A
RICKEL Deutsche Ztschr f Chir, 1934, 243: 607

Carcinoma of the stomach due to ulcer of WILLIAMS *Lyon chir* 1935 31 86

The Polya technique in gastric tomy for biloculation of the stomach due to ulcer SARTY *Lyon chir* 1935 31 119

A study of the causes of poor results following gastro-enterostomy in cases of duodenal ulcer or gastric ulcer near the pylorus A KREVER *Norsk Mag f Lægevidensk* 1934 95 1152

Drainage in the surgery of gastric ulcer R DENI *Lyon chir* 1935 31 93

The diagnosis of gastric carcinoma A M SWELL and B R KRAEGER *J Lancet*, 1935 33 153

The prognosis of gastric carcinoma based on twenty years experience in the Her Clinic A HINTZE *Ztschr f Herz f Fortbild*, 1934 31 609 613

Carcinoma of the stomach with multiple secondary deposits in the colon T P LAWRENCE and G H STEEL *Lancet* 1935 228 321

Late results of palliative intervention for recurrent cancer of the stomach BÉARD and COLON *Lyon chir* 1935 31 125

Radical and palliative operations for gastric and intestinal diseases J SCHWITZER *Wien klin Wochenschr* 1934 2 1105

Gastrostomy a clamp method V CARABBA *Am J Surg* 1935 27 484

Some points in the operation of gastrectomy W H OGILVIE *Brit M J* 1935 1 457 [24]

The gastric secretion following gastrectomy L I MERRILL and F FROELICH *Presse méd Par* 1935 43 257

Percutaneous anesthesia for operations on the stomach I PHILIPOWICZ *Zentralbl f Chir* 1934 p 1065

The effect of chlorides on the activity of the bowel H FRIEL and A LOISER *Deutsche Ztschr f Chir* 1934 241 781

Abdominal roentgenography without the preparatory administration of a contrast medium in acute intestinal obstruction BARTHÉLEMY *Bull et mém Soc nat de chir* 1935 61 133

Roentgenography without preparatory administration of a contrast medium in acute intestinal obstruction LARDENOIS *Bull et mém Soc nat de chir* 1935 61 202

The roentgenological diagnosis of the site of obstruction in acute intestinal obstruction P BROCC *Bull et mém Soc nat de chir* 1935 61 269

Roentgenography in intestinal obstruction H MONTGOMERY *Bull et mém Soc nat de chir* 1935 61 270

Roentgenography without an opaque medium in acute intestinal obstruction I DUVAL H BÉLÉRE and I FOURIER *Bull et mém Soc nat de chir* 1935 61 270

Acute mechanical intestinal obstruction the mortality with and without enterostomies based on a review of 341 cases from the records of the Cook County Hospital A FRY and W R LEBBINS *Surg Gynec & Obs* 1935 60 235

The operative treatment of numerous gunshot wounds of the bowel RITTER *Zentralbl f Chir* 1934 p 1044

Intestinal infection without vascular obliteration J DE FORMERY *Bruxelles-méd* 1935 15 487

Specific treatment of intestinal infections CHABREY *Bruxelles-méd* 1935 15 316

The diagnosis and treatment of intestinal amebiasis T T MCKIE *New York State J M* 1935 35 201

The surgical significance of bowel changes in typhoid infections L FISCHER *Genesk Tijdschr v Nederl Indst* 1934 74 1201

So-called infarction of the intestine J ETEL and J GOSSET *J de chir* 1935 43 396

Submucous lipomata of the intestinal tract as a cause of intestinal obstruction J D KIRSBAUM *Ann Surg* 1935 101 734 [25]

A simple and radical method of treating intussusception W CAPELLÉ *Deutsche Ztschr f Chir* 1934 241 745

Intermittent duodenal obstruction J K BRILL *J Michigan State M Soc* 1935 14 151

The healing of artificial defects of the duodenal mucosa H W FLOREY and H F HARRISON *J Path & Bacteriol* 1934 40 211

The mechanism of perforation of the duodenum by a biliary calculus PROUST DREYFUS-LEFOYER and ROBERT *Bull et mém Soc nat de chir* 1935 61 164

Duodenal perforation by a biliary calculus LARDENOIS *Bull et mém Soc nat de chir* 1935 61 222

Duodenal ulcer as a familial disease six cases in one family F L TURNER and A G LATIFF *Presse méd Par* 1935 43 339

Resection of deep duodenal ulcers R NIESSEN *Zentralbl f Chir*, 1934 p 21

The clinical use of plastic pyloroduodenostomy in chronic duodenal ulcer G L McWHORTER *Arch Surg* 1935 34 528

Hemorrhagic duodenal ulcer treated by gastrectomy with exclusion and resection of the gastroduodenal artery DELORE and THINERS *Presse méd Par* 1935 43 203

Benign tumors of the duodenum F KOELSER *Acta med scand* 1935 84 410

Primary carcinoma of the duodenum W F HARRIS W F HARRIS JR and L HARRIS *Ann Surg* 1935 101 961

Perforated jejunal ulcers D TRELOAR *Lancet* 1935 228 673

Jejunostomy G LARDENOIS *Bull et mém Soc nat de chir* 1935 61 254

Terminal ileitis V H MICKLER *J Oklahoma State M Ass* 1935 28 95

Plastic operations on the ileum colon and rectum J QUÉNO *Bull et mém Soc nat de chir* 1935 61 137

Surgical conditions associated with Meckel's diverticulum A H MONTGOMERY *Internat Chn* 1935 1 16

Studies on absorption and excretion in segments of the colon of man F S CURRY and J A BARON *Surg Gynec & Obst* 1935 60 667

Acute volvulus of the pelvic colon due to megacolon and retractile mesosigmoiditis V SOLDEVILLA *Med Ibera* 1935 19

Mechanical partial obstruction of the colon by a pericolic membrane J H ROBINSON *J Oklahoma State M Ass* 1935 28 79

Total atresia of the large bowel sigmoidostomy PATEL *Lyon chir* 1935 32 98

Intra-peritoneal vaccination in surgery of the colon E B PORTER and F A COLLIER *Ann Surg* 1935 101 886

The X-ray examination of the appendix D G MURPHY *Med J Australia* 1935 1 270

Radiology of the appendix F G WOOD *Brit M J* 1935 1 640

A retrocecal appendix J L MEACHER *Med J Australia* 1935 1 330

Mesenteriolitis its importance in the symptoms diagnosis and clinical aspects of appendicitis and its complications A histological and clinical study O LEVY *Beit z klin Chir* 1934 106 491

The sedimentation time as an aid in differentiating acute appendicitis and acute salpingitis C T SMITH T HARRIS and A WATSON *Am J M Sc* 1935 189 353

Appendicitis J F MITCHELL *Internat J Med & Surg* 1935 48 52

Acute appendicitis E H CAYFORD Canadian M Ass J, 1935, 32 259
 Acute appendicitis in the aged H TAMMANN and B LOHMANN Med Klin, 1934, 2 1235
 The problem of acute appendicitis in New York City S KRECH New York State J M, 1935, 35 248
 Appendicitis and rheumatic fever G C BERTANI and A MOLFINO Semana méd, 1935, 19 199
 Appendicitis associated with multiple liver abscess, report of a case F K BOLAND, JR. J. Med Ass Georgia, 1935, 24 102

A gangrenous appendix removed from a lumbar hernia A R C HIGHAM Lancet, 1935, 228 612
 Gangrenous appendicitis with a fistula into the small bowel, strangulation of the ileum by ileocolostomy C GUIDOTTI Riforma med, 1935, 51 127

The relation of drainage to morbidity following operation for acute suppurative appendicitis D A WILLIS and J M MORA Am J Surg, 1935, 27 480

Carcinoma and schistosomiasis of the appendix LEVINE and MARIN J Lab & Clin Med, 1935, 20 602

Appendectomy under local anesthesia F HESSE Zentralbl f Chir, 1934, pp 2152, 2534

Intussusception of the stump of the appendix A MACLENNAN Glasgow M J, 1935, 123 158

Mobilization of the descending colon as an operative maneuver C F DIXON Ann Surg, 1935, 101 971

Four cases of volvulus of the sigmoid colon P HARDOUIN Bull et mém Soc nat de chir, 1935, 61 225

Diseases of the rectum W ZWEIFG Wien klin Wchnschr, 1934, 2 1140

The treatment of prolapse of the rectum H BARDY Finska Lak sällsk Hdl, 1934, 76 769

The rationale of Jek's operation for rectal stricture H E BACON, F H MURRAY, and J D SCHOFIELD Am J Surg, 1935, 27 476

The significance of bleeding from the rectum O FRISCH Wien klin Wchnschr, 1934, 2 1395

The operative treatment of carcinoma of the rectum VON SEEMEN Zentralbl f Chir, 1934, p 1620

Further experiences with radical operation for carcinoma of the rectum F MANDEL Zentralbl f Chir, 1934, p 2946 [26]

Congenital anorectal atresia D M G COSTA Med Ibera, 1935, 19 289

Liver, Gall Bladder, Pancreas, and Spleen

Subcutaneous injury of the hepatoduodenal ligament and biliary passages P TREIDER Norsk Mag f. Lægevidensk, 1934, 95 842

Solar irradiation as a protection against cholemic hemorrhage F BERNHARD Chirurg, 1934, 6 704

Biliary colonic fistula H B PODLASKY Radiology, 1935, 24 345

Cancer of the biliary passages F LAMATTINA Semana méd, 1935, 42 523

Surgery of the biliary tract, with particular reference to postoperative pain H VON HABERER Med Welt, 1934, pp 1573, 1613

Can the results of operations on the biliary passages be improved by study of the newer methods of treatment? C BOCKELMANN 1933 Gießen, Dissertation

Diagnostic and prognostic value of anatomical and functional changes of the liver in surgery of the biliary passages DONATI Bull et mém Soc nat de chir, 1935, 61 139

Some relationships between the liver, spleen, and the splanchnic vascular area T NAFGELI Zentralbl f Chir, 1934, p 2632

The character of hepatic intolerance A TZANCK Bull et mém Soc méd d hop de Par, 1935, 51 250

Hepatic coma E E MARTÍNEZ Clin y lab, 1935, 20.

A new case of icterus due to reflex spasm of the sphincter of Oddi, new symptoms and therapeutic considerations PAVEL, CLAUDIAN, and GHITESCO Bull et mém Soc nat de chir, 1935, 61 210

The pre-operative and postoperative treatment of the jaundiced patient H R OWEN Pennsylvania M J, 1935, 38 395

So-called medical icterus and its surgical treatment. A study of its clinical aspects, pathogenesis, and therapy J CAROLI and H BENOIT Rev de chir, Par, 1935, 54 27 [26]

Results of surgical treatment of chronic icterus W DENK Wien. klin Wchnschr, 1934, 2 1153 [27]

Severe hepatic insufficiency in the hepatitis associated with cholecystopathies F F SOLERVICENS Rev méd de Barcelona, 1935, 12 3

Omentopexy in portal cirrhosis of the liver with ascites R S GRINNELL Ann Surg, 1935, 101 891 [28]

Late changes in the hepatic parenchyma in dogs with an Eck fistula N FRESSINGER and R GARLING-PALMER Rev méd, de la Suisse Rom, 1935, p 76

Hypercholesterinemia as a cause of hepatic calcuosis G M GRULIANT Arch ital di chir, 1935, 39 61 [28]

Solitary liver abscess C EGGERS Ann Surg, 1935, 101 933

Liver and biliary tract surgery, with particular reference to residual symptoms and postoperative recurrence VON HABERER Zentralbl f Chir, 1934, p 2116

Cholecystography B R KIRKLIN Brit J Radiol, 1935, 8 170

Cholecystography in diabetics G ZAPPALÀ Policlín, Rome, 1935, 42 sez prat 139

The phrenic pressure point as a differential diagnostic sign in gall-bladder disease R BAYER Wien klin Wchnschr, 1934, 2 1117

Gall-bladder disease, remarks on the symptoms, diagnosis, and treatment W L PALMER Internat Clin, 1935, 1 111

Intrapertoneal biliary effusions without apparent perforation of the biliary tract I SABADINI and E CURTILLET J de chir, 1935, 45 191

Spontaneous intraperitoneal rupture of the gall bladder in a child R H MEADE, JR Ann Surg, 1935, 101 950

Courvoisier and pseudo-Courvoisier phenomenon E MELCHIOR Zentralbl f Chir, 1934, p 2606

Acute cholecystitis B LIPSHUTZ Ann Surg, 1935, 101 902 [29]

The diagnosis and management of acute cholecystitis R R GRAHAM Canadian M Ass J, 1935, 32 283

Ileus due to gall stones G REDELL and Z CLAUSEN Hygiea, Stockholm, 1934, 96 661

Cholecystoduodenal fistula H E KNOX Ann Surg, 1935, 101 958

Cholecystogastrotomy and hepatitis, an experimental study A GENTILE Arch Surg, 1935, 30 449 [29]

The technique of cholecystostomy V. PAUCHET Bull et mém Soc d chirurgiens de Par, 1935, 27 86

Changes in the biliary system after cholecystectomy S EISS and J H WHALEY, JR Ann Surg, 1935, 101 921

Anuria following cholecystectomy and in mechanical icterus without operation A HOFMANN Wien klin Wchnschr, 1934, 2 1415

Spontaneous rupture of the common bile duct, a sequel of choledochostomy W L WOLFSON and D R LEVINE Surg, Gynec & Obst, 1935, 60 746

Biliary secretion in obstruction of the common duct L B SHELDON J Am M Ass, 1935 104 915

Primary inflammatory structure of the common bile duct
J R PHILLIPS and F H AILGORE Am J Surg 1935
2 345

The surgical management of destruction of the common
bile duct without a biliary fistula F I HERRY South
M J 1935 25 216

Cholecystic cyst with a double common bile duct
W B SWARTLEY and S D WEDDER Ann Surg 1935
101 912

Technical failures recognized during operation by cho-
lolangiography stenosis of the common duct by ligation of
the cystic duct I L MIRIZZI Zentralbl f Chir 1934
p 2857

The effects of denervation of the cystic duct G JAMPA
Arch ital di chir 1935 39 189 [29]

Hyperinsulinism three cases relieved by radiation
S C PARROW Radiology 1935 21 320

The treatment of acute pancreatitis I BROCK Presse
méd Par 1935 43 217 [30]

Two cases of acute pancreatic necrosis I MOSKOW and
M MARKOV Clin Bulgar 1934 6 321

Acute pancreatic necrosis and pancreatitis O NORD-
MANN Med Klin, 1934 2 1516

An epithelial cyst of the pancreas MOIRE and FOX
Brit J Bull et mém Soc nat de chir 1935 61 53

A clinical and roentgenological study of cancer of the
head of the pancreas G SEGURA Semana méd 1935
42 602

The surgery of acute pancreatic diseases F BERNHARD
Zentralbl f Chir 1935 p 71 [30]

Late results of pancreaticocystanastomoses F GOLD
Mitt a d Grenzgeb d Med u Chir 1934 43 391

Delayed hemorrhage from the ruptured spleen R
CARDWELL Brit M J 1935 1 416

Anemia associated with splenomegaly in childhood
R W FLEIS Practitioner 1935 134 317

Splenectomy and cholecystectomy in two cases of
splenomegaly with jaundice and cholelithiasis. H. R.
OWEN and J P NORTH Ann Surg, 1935 101 951

Splenectomy in clinical surgery D VASTZ Rev
stunt méd 1934 23 156

Splenectomy its effect on experimental tuberculous
bacillæmia V G ALVAREZ Med Ibera, 1935, 19 99

Miscellaneous

Traumatic injuries to the abdominal viscera W E
IFE and J GALLAGHER Internat J Med & Surg 1935
49 47

The radiological apect of right upper abdominal pain
L J CAREY Canadian M Ass J 1935 32 206

The pathogenesis and diagnosis of disease conditions
of the right side of the abdomen F SCIACCA Polichr
Rome 1935 42 sez chur 51

A subcutaneous colon bacillus abscess in the epigastric
region apparently of appendiceal origin A BASSET Bull
et mém Soc nat de chir 1935 61 262

Two distinct abdominal tumors J P BOGNAME
Internat J Med & Surg 1935 45 80

Retropontal xanthogranuloma C OBERLING Am
J Cancer 1935 23 477

Retropontal sarcoma with pain referred to the thigh
D L POW Brit M J 1935 1 546

The technique and indications for exploratory lapar-
otomy in abdominal trauma A DE LOS RIOS Rev
de cirug Hospital Juarez Mex 1935, p 1

Abdominal surgery in children J T CAVATTE Brit
M J 1935 1 180

The technique of peritoneal suture under difficult con-
ditions W REITER Zentralbl f Chir 1934 p 2539

The rôle of phlebitis in early postoperative embolism
J DUCLOIR Presse méd Par, 1935 43 281

GYNECOLOGY

Uterus

Methods of treatment in malpositions of the uterus
D C CONZETT J Iowa State M Soc 1935 22 159

Operative technique for prolapse of the uterus A TOM
MISSELL Clin obstet 1935 37 31

Conservative repair of pelvic prolapse F L KIRK
J Michigan State M Soc 1935 34 156

The Sturmdorf operation for repair of the cervix R
CALABIANO Clin obstet 1935 37 29

Chronic metritis of the cervix F PAPIN J de méé de
Bordeaux 1934 112 39

Diathermy coagulation of metritis in uterine retrover-
sion A PILLE Compt rend Soc franç de gynéc 1935
5 30

Diathermy coagulation in the treatment of cervicitis
E MARCHESI Clin obstet 1935 37 61

The treatment of chronic endocervicitis ACKERMAN
Bull Soc d'obst et de gynéc de Par 1935 24 104

Nabothian cysts and syphilitic chancre of the cervix
P LUTICH Compt rend Soc franç de gynéc 1935 5 16

Ulcer of the cervix due to the colon bacillus J ROLY
PART MARIJ Bruxelles méd 1935 15 418

Experimental end metrial hyperplasia A S PARKES
Lancet 1935 225 485

A case of decidual reaction in a cervical polyp and in the
cervix J GONZALEZ Zentralbl f Gynaek 1934 p 2473

Phlebitis during the development of fibromata VILLARD
Lyon chir 1935 32 89

Phlebitis during the development of fibromata CORRE
Lyon chir 1935 32 95

A large fibroma of the cervix J L LAPEYRE and R I
MENDES LAMOURAS Bull Soc d'obst et de gynéc de
Par 1935 24 33

The condition of uterine fibromas after the menopause
S GOLDENBERG BAILLER Gynecologie 1935 34 39 [32]

Recurrence of a fibroid from the cervical stump fol-
lowing hysterectomy H N FLETCHER Brit M J 1935
1 100

The judgment and treatment of myoma of the uterus
C BICLER Wien klin Wchnschr 1934 2 1734

Myoma and malignant tumors L HERNOS Zentralbl
f Gynaek 1934 p 2775

The development of irradiation therapy of cervico-
uterine epitheliomas A LACASSAGNE Strahlentherapie
1934 51 417 [32]

Dysgerminoma of the myometrium W SCHILLER Arch
f Gynaek 1934 158 76

Precancerous and carcinoid lesions of the cervix sten-
with comment on the Schiller test E HENRIKSEN Surg
Gynec & Obst 1935 60 855

Blood vessels of uterine tumors II Histological obser-
vations on the distribution of blood vessels in uterine
cancer I KAWANISHI Jap J Obst & Gynec 1935 15
16

The simultaneous occurrence of carcinoma of the cervix
and lymphogranulomatosis inguinalis PHILLIPP Ztschr f
Geburtsh u Gynaek 1934 109 459

Carcinoma in a cervical polyp W. H. CONBIT J. Lancet, 1935, 55: 87.

Cancer and fibroma. ROUFFART-MARIN. Bruxelles-méd, 1935, 15: 332.

On the treatment of carcinoma of the cervix in pregnancy G. PAROLI Riv. ital. ginec., 1935, 17: 641 [33]

Irradiation of cancer of the cervix. I. I. KAPLAN Am J Surg, 1935, 27: 302

Irradiation therapy in cancer of the corpus uteri, indications and technique. W. B. HEALY. Am J Surg, 1935, 27: 401.

Radiotherapy in cervix cancer. H. CHAMBERS Lancet, 1935, 228: 606

Combined intra-abdominal and intravaginal irradiation in the treatment of carcinoma of the cervix G. GELLHORN Am J Surg, 1935, 27: 422.

Further results of irradiation for carcinoma of the uterus F. VOLTZ. Zentralbl. f. Gynaek., 1934, p. 2466

What is the place of radium in uterine body cancer? J. T. MOORE Texas State J. M., 1935, 30: 692

Pregnancy and normal labor in a carcinomatous uterus treated with radium and clinically cured A. MOSCARIELLO Radiol. med., 1935, 22: 121

Hysterectomy for carcinoma of the corpus uteri E. H. RICHARDSON. Am. J. Surg., 1935, 27: 408

Five-year results in fifty-six cases of carcinoma of the corpus uteri. Q. U. NEWELL and H. S. CROSSEN Am J Obst. & Gynec., 1935, 29: 326 [33]

Myosarcoma of the uterus D. M. THOMAS Med Pregl., 1934, 9: 152

Adnexal and Periuterine Conditions

Eighteen practical gynecological questions adnexitis F. PAPIN J. de méd. de Bordeaux, 1935, 112: 119

A clinical and diagnostic contribution on adnexal tuberculosis R. L. LIVSCHINA Zentralbl. f. Gynaek., 1934, p. 2681.

The diagnosis of tuberculous adnexitis D. F. LIMA and R. F. CARLINO Semana méd., 1935, 42: 609

Inflammatory tuberculosis of the adnexa E. GODLEWSKI Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 76

A case of parametrium abscess with rupture into the bladder O. WEINSTOCK. Wien med. Wchnschr., 1934, 2: 1115

Experiences with short-wave therapy in gynecology, particularly for adnexal tumors E. VOGT Strahlentherapie, 1934, 51: 526

Autogenous ovarian grafts in bilateral removal of the adnexa A. BINET Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 92

Torsion of the tube and a juxta-ovarian cyst G. LUTHEREAU Compt. rend. Soc. franç. de gynéc., 1935, 5: 20

Salpingitis and its treatment. J. A. MACKENZIE Practitioner, 1935, 134: 217

Actinomycosis of the fallopian tubes, with the report of a case S. S. GARDNER Australian & New Zealand J. Surg., 1935, 4: 279

Hematosalpinx due to the rupture of a corpus luteum cyst GUILLEMIN Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 99

Spontaneous and traumatic rupture of a pyosalpinx, three observations M. L. ESNAURRIAP Rev. mexicana de ciruj., ginec. y cáncer, 1935, 3: 35

Generalized peritonitis from the rupture of a pyosalpinx A. SOIMAFU Gynecologie, 1935, 34: 21 [33]

Description of a simple, sure, closed, and rapid method of tubal sterilization O. HONCAMP Zentralbl. f. Gynaek., 1934, p. 2654.

Iontophoresis in gynecology, particularly for tubal sterility L. KAHN Schweiz. med. Wchnschr., 1934, 2: 1032

The corpus luteum hormone and its isolation E. FELS Arch. f. Gynaek., 1934, 158: 364 [34]

"Ovarium disjunctum" J. KREIS Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 110

The metabolic function of the corpus luteum I. The effect on the glycogen content of the liver E. ENGELHART and O. RIML Arch. f. Gynaek., 1934, 158: 314

The metabolic function of the corpus luteum O. RIML and E. ENGELHART Arch. f. Gynaek., 1934, 158: 317.

Luteinization of the ovaries in a case of basophilic pituitary adenoma with Cushing's syndrome H. BERGSTRAND Arch. f. path. Anat., 1934, 293: 413 [34]

Is there a relationship between creatin and ovarian function? H. THIESS Arch. f. Gynaek., 1934, 158: 164

The normal and disturbed ovarian function R. SCHROEDER Verhandl. d. deutsch. Gesellsch. f. innere Med., 1934, p. 295

Sterility due to ovarian dysfunction T. N. A. JEFFCOATE Brit. M. J., 1935, 1: 345

Intrapentoneal hemorrhage due to the rupture of a corpus luteum A. H. MOLFINO and R. A. BOERO Semana méd., 1935, 42: 457

A large ovarian cyst in a young girl G. M. IRVINE. Indian M. Gaz., 1935, 70: 81

So-called tar cysts of the ovary M. KUNZ. 1934. Basel, Dissertation

An enormous amount of lutein hormone in the urine in a case of lutein cyst BRINDEAU, RIEHL, HINGLAIS, and HINGLAIS Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 38 [34]

The development of a pseudomucinous cyst in an ovary resected twenty-two years previously for pseudomucinous cyst, remarks on the differential diagnosis of ascites and ovarian cyst. REED Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 113

Amenorrhea associated with bilateral polycystic ovaries I. F. STEIN and M. L. LEVENTHAL. Am. J. Obst. & Gynec., 1935, 20: 181 [35]

Rupture of an ovarian cyst into the intestine D. MAVRODIN Gynecologie, 1935, 34: 60

Two cases of large solid ovarian tumors CAILOT Bull. Soc. d'obst. et de gynéc. de Par., 1935, 24: 55

Tumor of the ovary simulating a large fecalith. G. VON VAGY Zentralbl. f. Gynaek., 1934, p. 2424

Granulosa-cell tumors of the ovary H. C. THORNTON Am. J. Cancer, 1935, 23: 522

The occurrence of chorionepitheliomatous structures in the ovary E. KLAFFEN Arch. f. Gynaek., 1934, 158: 131.

Fibroma ovarii adenocysticum. O. FRANKL and E. KLAFFEN Zentralbl. f. Gynaek., 1934, p. 2656

Case report of a solitary teratoma of the ovary S. M. SANDERSON J. Michigan State M. Soc., 1935, 34: 166

Brenner tumors of the ovary F. K. EWALD Zentralbl. f. Path., 1934, 61: 81

Is masculinization in cases of ovarian tumors due to intersexualism? G. KREBIET Arch. f. Gynaek., 1934, 158: 22.

The operative treatment of ovarian tumors W. E. STUDDIFORD and E. W. HOLLADAY Am. J. Surg., 1935, 27: 415

Clinical manifestations in malignancy of ovarian tumors H. BACH 1933: Leipzig, Dissertation.

The present status of radiation therapy in cancer of the ovaries A. KEAN Am. J. Surg., 1935, 27: 425

Preliminary communication on the effect of Coutard irradiation on inoperable carcinoma of the ovary A. GENGENBACH. Zentralbl. f. Gynaek., 1934, p. 2377.

External Genitalia

- The repair of perineal tears J MEXLIN Brit M J 1935 1 415
- Scarring of the vulva and vagina due to the use of copper sulphate as a contraceptive E FORLISI Riv Ital di ginec 1935 17 106
- Ulcerative vulvitis and stomatitis of endocrine origin A J ZISERMAN J Am M Ass 1935 104 826
- Hydradenoma of the vulva H E FICHENBERG Ztschr f Geburtsh u Gynaek 1934 100 358 [35]
- Vaginal discharge R T LAVER J Lancet 1935 55 70
- The treatment of leucorrhoea L KRAUT Wien klin Wchnschr 1934 1290
- The treatment of leucorrhoea with diatrovagin. H BREITKREUZ Muenchen med Wchnschr 1934 2 1025
- The treatment of vulvovaginitis with estrin D NARRKO and A G DICKEY Lancet 1935 228 604
- Imphysematous colpitis M MASAZZA Gynecologia 1935 1 6
- A peculiar case of vesicovaginal fistula M L TRESTON Indian M Gaz 1935 70 61
- A case of a fibromyoma of the vaginal wall S R GORE Indian M Gaz 1935 70 78
- Colpoperineoplasty by the method of Piccoli ROSCI Arch di ostet e ginec 1935 42 49

Miscellaneous

- Progress and problems in gynecology J W TURNER South M J 1935 29 25
- The postnatal development of the genital organs in the albino rat B P WIESNER J Obst & Gynec Brit Emp 1935 42 8
- Longental deformities of the genitalia P OLIVITO Riv Ital di ginec 1935 17 214
- Ano teodystrophic contracted pelvis with some remarks on the significance of fibrous osteodystrophy in gynecology P ESCH Zentralbl f Gynaek 1934 p 2530
- Changes in the mucous membranes of the mouth and the tendency to hemorrhage during menstruation H PASCHKE Deutsche Zahnärztl Wchnschr 1934 p 215
- The scope of X-ray treatment in gynecology with special reference to menorrhagia MARKENIE New Zealand M J 1935 34 50
- Intractable dysmenorrhoea F S WETHERELL Am J Obst & Gynec 1935 29 354
- A controlled study of the treatment of dysmenorrhoea R E BOWEN J Lancet 1935 55 84
- Hormone therapy for dysmenorrhoea in young women. B THIES Wien med Wchnschr 1934 2 1109
- Hormonal treatment of hypomenorrhoea and amenorrhoea L NETTER Compt rend Soc franc de gynec 1935 5 25
- The significance of menopausal hemorrhage with especial reference to carcinoma C C NOBLE Internat Clin 1935 1 182
- Pituitary and ovarian hormones in gynecological conditions C MACBRIDE J Kansas M Soc 1935 36 91
- The biology and the diagnostic-therapeutic importance of the sex hormones of the anterior lobe of the pituitary gland W REIKERT Ztschr f Geburtsh u Gynaek 1934 100 283 [36]
- The excretion of the so-called synergistic gonadotropic factors of the anterior lobe of the hypophysis in the urine

- following castration K J AVELLINO and F HOFFMANN Klin. Wchnschr 1934 2 1471
- Anterior pituitary therapy C E HENSON J Lancet, 1935 55 79
- Folliculin R. RIVORE Clin ostet 1935 37 38
- The Aschheim Zonde test in relation to gynecological diagnosis P GRAVE J Lancet 1935 55 81
- Pelvic pain Resection of the superior hypogastric plexus for its alleviation F S WETHERELL Zentralbl f Gynaek 1934 p 2603
- The problem of discharge from the genital tract A NEGRI Rev med-quirurg de patol femcana 1935 3 21 [36]
- Pneumococcus pelvic infection in adults J E KIRK Am J Obst & Gynec 1935 29 547
- Röntgen therapy for genitoperitoneal tuberculosis in the female C J LAUS Strahlentherapie 1934 51 371
- The serological diagnosis of gonorrhoea with particular reference to its value in the prognosis and treatment WALTER Dermat Wchnschr 1934 2 1428
- Is the intradermal reaction on gonorrhoea of diagnostic value? M THOMAS and L WALDEYER Klin. Wchnschr 1934 2 1572
- Gonorrhoea in the female with particular reference to its treatment F HEIMANN and F SCHRECK Monatsschr f Geburtsh u Gynaek 1934 60 10
- Intracutaneous living vaccine in the treatment of gonorrhoea in the female S SOMMER Monatsschr f Geburtsh u Gynaek 1934 60 339
- Comparative evaluation of physiotherapeutic and surgical methods in the treatment of infections of the female genital organs in relation to the recovery of work capacity I MARTYNEKO F TENETA J PRANETINE and U GOLUBOVA Gynecologia 1935 14 75 [37]
- A ureterocoele which presented at the external urinary meatus (female) J B MACALPINE Proc Roy Soc Med Lond 1935 28 451
- Comparison of the urinary tract in pregnancy and pelvic tumors E C BAKER and J S LEWIS JR J Am. M Ass 1935 104 811
- Endometriosis J NIERMANN 1933 Leipzig Dissertation
- The occurrence and significance of endometrial tissues in the wall of teratocysts of the ovary G GRENDMANN 1933 Leipzig Dissertation
- Intestinal complications from prolonged radium and X-ray irradiation for malignant conditions of the pelvic organs T E JONES Am J Obst & Gynec 1935 29 300
- Our experiences with roentgen radium and chemotherapy in gynecological diseases L HAVLISEK Bratislav lek Listy 1934 14 119
- Thrombo- and embolism in obstetrics and gynecology I NUBENBERGER Verhandl d deutsch Gesellsch. Kreislaufforsch 1934 pp 101 248
- Local anesthesia in gynecology A A DAVIS Brit M J 1935 1 636
- Contraception as a possible means of reducing gynecological morbidity F STONE New England J Med 1935 212 511
- Sterility in the female J M M FORBES Med Items 1935 19 21
- Sterility The method of investigation and the findings in twenty four cases M GOLDBERGER Rhode Island M J 1935 18 1
- The rôle of diathermy in the treatment of sterility B BODÓ Fortschr d Therap 1934 10 603

OBSTETRICS

Pregnancy and Its Complications

- The problem of maternal welfare C. E. D'ARCY Med J Australia, 1935, 1: 385
- The problems of antenatal care T. D. HUGHES Med J Australia, 1935, 1: 334
- Discussion: How can the results of antenatal care be improved? Proc Roy Soc Med, Lond, 1935, 28: 453
- More exact prognoses in the cases of older primiparas A. L. SCHERBAK. Zentralbl f. Gynaek, 1934, p. 2790
- A report of 459 pregnancy tests W. V. ALTENEHLER. J Med, Cincinnati, 1935, 16: 31
- Changes which determine pregnancy M. V. CARCILLER Clin y lab, 1935, 20: 51
- The chemicohormonal diagnosis of pregnancy; a modification of the Cuboni test N. CONSOLI Clin ostet, 1935, 37: 65
- Newer attempts at obtaining a rapid diagnosis of pregnancy: The Konsuloff reaction in frogs K. NEMEC. Bratislav. lek Listy, 1934, 14: 395
- The diagnostic and prognostic value of the Aschheim-Zondek test in extra-uterine pregnancy L. MORILLO Ztschr f. Geburtsh u. Gynaek, 1934, 110: 18
- The determination of urinary histidine as a chemical test for pregnancy T. R. SEIDMAN Am J Obst & Gynec, 1935, 20: 451
- Mono-amniotic twin pregnancy J. K. QUIGLEY Am J Obst & Gynec, 1935, 20: 354
- The diagnosis of ectopic pregnancy D. B. LUDWIG Pennsylvania M J, 1935, 38: 403
- Ectopic pregnancy, an analysis of fifty-seven cases J. T. KRUEGER Texas State J M, 1935, 30: 715
- Ruptured ectopic pregnancy W. O. JOHNSON Kentucky M J, 1935, 33: 135
- How do we make the diagnosis of extra-uterine pregnancy? J. L. B. ENGELHARD Nederl Tijdschr v Geneesk, 1934, p. 4606
- Diagnostic errors in extra-uterine pregnancy G. LACOVARA Clin ostet, 1935, 37: 82
- Extra-uterine pregnancy and the intra-uterine pessary. R. MEYER-WILDISEN Schweiz med Wchnschr, 1934, 2: 1009
- Abdominal pregnancy of six and one-half months, difficulties of diagnosis, operation, recovery DEVRAIGNE, RAVINA, and LEROY Bull Soc d'obst et de gynéc. de Par, 1935, 24: 40
- The limits of diagnosis and the responsibility in cases of tubal pregnancy K. FINK Zentralbl f. Gynaek, 1934, p. 2594
- Early rupture of tubal pregnancy L. DEVLZE and M. TERRASSON Bull Soc d'obst et de gynéc de Par, 1935, 24: 83
- Ovarian pregnancy W. C. THRO Am J Obst & Gynec, 1935, 20: 457
- A normal human ovum in the primitive streak stage (approximately eighteen and one-half days) H. O. JONES and J. I. BREWER Surg, Gynec & Obst, 1935, 60: 657
- The structure of the parietal decidua during early human pregnancy G. MOROSI Riv ital di gynec, 1935, 17: 761
- The glutathione content of the amniotic fluid GUERCIA Arch di ostet e gynec, 1935, 42: 1
- An analysis of 146 cases of placenta previa J. P. MARR Am J Obst & Gynec, 1935, 29: 454
- Uteroplacental apoplexy J. H. MOORE Am J Surg, 1935, 27: 529
- Mono-amniotic twins P. BURGER Bull Soc. d'obst et de gynéc de Par, 1935, 24: 116
- A case of extrasystolic arrhythmia in the fetus BARRE and HENRIET Bull Soc. d'obst et de gynéc de Par, 1935, 24: 74
- The estimation of fetal maturity by a new method of X-ray cephalometry; its bearing on clinical midwifery L. N. REFCI Proc Roy. Soc Med, Lond, 1935, 28: 489
- The clinical significance of polyhydramnion J. ABRAHAM Orvosi hetil, 1934, p. 962
- Habitual hydramnion. J. BRAUFAYS Monatsschr. f. Geburtsh u. Gynaek, 1934, 97: 221.
- A study of hepatic function in pregnancy. The curve of the amino-acids in the blood E. ROBECHT Gynecologia, 1935, 1: 53. [38]
- The excretion of estrin during pregnancy. S. L. COHEN, G. F. MARRIAN, and M. WATSON Lancet, 1935, 228: 674
- The synthesis and excretion of hippuric acid in pregnancy. A. HIRSHFIMER Am J. Obst & Gynec, 1935, 29: 395
- The bactericidal powers of the blood during pregnancy in tuberculous women G. TATA Riv. ital di gynec, 1935, 17: 533
- Nutrition during pregnancy, with particular reference to protein prophylaxis L. JERLOV Svenska Lakartidningen, 1934, p. 1257
- The dietetics of pregnancy and the nursing period L. KRAUL Wien. klin Wchnschr, 1934, 1: 785
- The psychoses associated with pregnancy R. R. WILSON J Kansas M Soc, 1935, 36: 104
- Ptyalism of pregnancy J. SNOECK Bruxelles-méd 1935, 15: 399
- A thermal study of vasomotor lability in pregnancy, preliminary report W. J. DIECKMANN and H. L. MICHEL Arch Int Med, 1935, 55: 420
- A rare case of spontaneous rupture of the uterus in the eighth month of pregnancy M. PENADA. Clin ostet, 1935, 37: 17
- Traumatic rupture of an early pregnancy uterus G. S. REFFER and C. G. MOORE Am J Obst & Gynec, 1935, 29: 439
- A case of transitory spasmodic paraplegia during pregnancy MICHON and LOUYOT Bull Soc d'obst et de gynéc de Par, 1935, 24: 100
- The electrocardiogram in pregnancy and labor. H. EUFINGER and H. MOLZ Monatsschr f. Geburtsh u. Gynaek, 1934, 98: 34
- The pulse rate in the aorta, femoral artery, and brachial radial artery at the end of pregnancy and following labor A. J. ANTHONY and R. HANSEN Ztschr f. Geburtsh u. Gynaek, 1934, 110: 8
- Elephantiasis and pregnancy A. BAUEREISEN Zentralbl f. Gynaek, 1934, p. 2539
- The pyelitis of pregnancy in the surgical urological department of the new St. Johannes Hospital in Budapest L. HENCZ Ztschr f. urol Chir, 1934, 40: 133
- Nephrectomy and pregnancy P. QUINTO Riv. ital di gynec, 1935, 17: 615 [38]
- Heartburn during pregnancy. H. E. RODWAY and U. SHELLEY J Obst & Gynec Brit Emp, 1935, 42: 107
- Genitoperitoneal tuberculosis and pregnancy L. PUCIONI Riv ital di gynec, 1934, 17: 363 [39]
- The pathogenesis of the toxicosis of pregnancy, with particular reference to hyperemesis KJ. VON OETTINGEN. Zentralbl f. Gynaek, 1934, p. 2545

- Torsemias of pregnancy P H ALBERT Clin y lab 1935 20 47
- Quantitative hormone analysis in the torsemias of pregnancy A HEIM Klin Wchnschr 1935 2 1614
- A critical study of 500 cases of eclamptogenic torsemia F H FALLS Am J Obst & Gynec 1935 9 516 [39]
- An introduction to the study of the micromorphology of the neurohypophysis in pregnancy and eclampsia BEATO Prog de la Clin Madrid 1935 21 85
- A study of the blood sugar levels in eclampsia L R MAYES and W M MCCORD Am J Obst & Gynec 1935 20 405
- The prevention of eclampsia H STEDENTOFF Muenchen med Wchnschr 1934 2 1222
- Severe hemorrhage due to the rupture of a vaginal varix in the seventh month of pregnancy A SALVETI Clin ostet 1935 31 25
- Typhoid infection of an ovarian cyst complicating pregnancy C K CHU Chinese M J 1935 43 179
- Carcinoma of the breast in pregnancy M FARATI Riv Ital ginec 1935 1 543
- Interruption of pregnancy particularly after the third month J LOWSER Med Rev 1934 51 337
- Abortion DOERFLER Muenchen med Wchnschr, 1934 2 1405
- The relation of trauma to abortion premature delivery and uterine bleeding L F BERK South M J 1935 28 243
- A case of tubal abortion with intraperitoneal hemorrhage recovery following early operation N C LAPEYRE and H ESTOR Bull Soc d'obst. et de gynec de Par 1935 24 70
- Septic abortion W R HOLMES J Lancet 1935 55 67
- The intra uterine application of carbon in incomplete abortion B H CARROLL Am J Obst & Gynec 1935 29 349
- Decidual changes in the uterine wall following abortion injuries. Refer Deutsche Ztschr f gerichtl Med 1934 24 30

Labor and Its Complications

- The induction of labor by the combined use of folliculin and hypophyseal extracts in arrested pregnancy VOROW BROCHER and COVATYEV Bull Soc d'obst. et de gynec de Par 1935 24 68
- The number of labor pains and the prognosis is of labor F SIERCKE Zentralbl f Gynaek 1934 p 2402
- An inquiry into the value of rectal examination in the course of obstetrical delivery T SCHEIDTOWITZ Rev franc de gynec et d'obst 1935 30 1 [40]
- Variations of the female pelvis in relation to labor H THOUSS Surg Gynec & Obst 1935 60 680
- A case of bargele pelvis P H LANG Chinese M J 1935 49 176
- The value of the bag of waters in the dilatation of the cervix A BURGER Zentralbl f Gynaek 1934 p 2612
- Rare complications in labor following previous abortion H KUEHNEN Deutsche med Wchnschr 1934 2 1418
- Statistical study of uterine ruptures L G McNEILL and R D McBRIDE California & West Med 1935 44 73
- Rupture of the uterus W MALJAWYNSKY Monatsschr f Geburtsh u Gynaek 1934 95 16
- Spontaneous rupture of the uterus M V FAUSTA Semana med 1935 42 121
- Ruptured membranes at the onset of labor E J KRAULIK West J Surg Obst & Gynec 1935 43 162
- The primiparas III The effect of spontaneous rupture of the membranes on the course of labor the frequency of

- operative labor infection and maternal and fetal mortality G VALLE Ginecologia 1935 1 34
- Rupture of the uterus following induced delivery P DELMAS Bull Soc d'obst. et de gynec de Par 1935 24 70
- Premature induced delivery in the case of a woman previously subjected to cesarean section DELMAS and BATELL Bull Soc d'obst. et de gynec de Par 1935 24 77
- Spontaneous delivery in the case of a patient with previous amputation of the cervix DELMAS and BATELL Bull Soc d'obst. et de gynec de Par 1935 24 74
- The danger of obstetrical methods in the treatment of placenta previa THILLAT EPARVIER and MARNET Bull Soc d'obst. et de gynec de Par 1935 24 52
- My procedure in certain cases of dystocia seen in the year 1933 J ARZUA A Rev franc de gynec et d'obst 1935 30 27
- Dystocia due to a transverse vaginal fold FERNANDEZ and LOUVOY Bull Soc d'obst. et de gynec de Par 1935 24 66
- Dystocia due to the septum in the uterus bicornis bicollis cum vagina septa J DEUTSCH Wien med Wchnschr 1934 2 1101
- Contraction ring treatment by amyl nitrite with observations on the pharmacological action of nitrite C P CROFT Proc Roy Soc Med Lond 1935 28 481
- Spasm of Bandli's region caused by the injection of pituitrin and preventing extraction of the head with forceps R SCHOKAPAT Bruxelles-med 1935 15 81
- Four cases of shoulder presentation in a corbiform uterus M MOREL Bull Soc d'obst. et de gynec de Par 1935 24 50
- The management of breech presentations R M ALLAN Med J Australia, 1935 1 105
- Breech extraction in the home B J HANLEY California & West Med 1935 4 257
- A rare birth injury in a case of breech presentation R FOML Zentralbl f Gynaek 1934 p 2554
- Traction in forceps deliveries R WYLLIE Am J Obst. & Gynec 1935 29 425
- Operative obstetrics V BAZALA 1934 Zagreb Verlag Ljecnika Vjrnika
- Deep incision of the cervix for prolapse of the cord in the case of a patient with eclampsia DELMAS and BATELL Bull Soc d'obst. et de gynec de Par 1935 24 87
- Cesarean section for infrequent conditions A MARILLON Clin o tet 1935 37 74
- Placenta previa low cesarean section living mother and child E BIVASSITTOV Bull Soc d'obst. et de gynec de Par 1935 24 30
- Placenta previa treated by low cesarean section RUYTER and BOULDER Bull Soc d'obst. et de gynec de Par 1935 24 51
- Technical possibilities of cesarean section with excision L MICHOV Bull Soc d'obst. et de gynec de Par 1935 24 66
- Decreasing infant mortality by extraperitoneal cesarean section K. SATWABOWSKI 1934 Cologne Dissertation
- Vaginal cesarean section by the method of Duerksen C ZICKERMAN Rev mexicana de ciruj ginec y cancer 1935 3 9
- Vaginal cesarean section by the method of Duerksen from the surgical point of view J V ULLARTE Rev mexicana de ciruj ginec y cancer 1935 3 29
- Cesarean section by the method of Duerksen from the obstetrical point of view J RANAO Rev mexicana de ciruj ginec y cancer 1935 3 32
- The Farabeuf lever for extraction of the fetal head in low cesarean section H VERMELV Bull Soc d'obst. et de gynec de Par 1935 24 89

Partial elimination of the uterine scar by the vaginal route following low cesarean section ROCVINS Bruxelles-méd, 1935, 15 468

Symphycotomy M V. FALSA Semana méd, 1935, 42: 606

The use of paraldehyde in obtaining obstetrical analgesia and amnesia H F KAY and G B. ROTH Am J. Obst. & Gynec, 1935, 29 366

Pentobarbital sodium analgesia J P BOYLAN. Am J Obst & Gynec, 1935, 29 440

A simple ether-oil apparatus R P LITTLE Am J Obst & Gynec, 1935, 29: 424

Puerperium and Its Complications

Lactation and the re-onset of menstruation. T. SUTO Jap J Obst & Gynec, 1935, 18 63

Local puerperal diseases and circulatory disturbances E M KAPLAN and F I WITLSTEIN Zentralbl f Gynaek, 1934, p 2550

Total inversion of the puerperal uterus for four months G CALDERINI Ginecologia, 1935, 1 98

Torsion of the pedicle in ovarian cysts following delivery E von GRAFF J Iowa State M Soc, 1935, 25 118

Involution of the uterus and the lochia following cesarean section and following acid and mixed diets W SPERLING Zentralbl f Gynaek, 1934, p 2013

The treatment of atonic postpartum hemorrhages, together with a report on the methods used by the general practitioner in East Prussia in the treatment of postpartum hemorrhages F von MIKULICZ-RADECKI. Muenchen med Wchnschr, 1934, 2 1797 [40]

The intravenous injection of preparations of the posterior lobe of the hypophysis in the treatment of postpartum hemorrhage due to uterine atony E DEBIASI and P ROMESSI Clin ostet, 1935, 37 2

Fetal hemorrhage following perforation of the after-coming head A DOEDERLEIN Muenchen med. Wchnschr, 1934, 1 901

The etiology of puerperal infection C G PAINE Brit M J, 1935, 1 243 [41]

Experimental studies of puerperal infection V The variation in the susceptibility of the skin to streptococcus toxin during pregnancy C C TORRANCE Am J Obst. & Gynec, 1935, 29 434

Autogenic infection in phlegmasia alba dolens J BAZÁN and A G COLLAZO Semana méd, 1935, 42 174

Colon-bacillus infection simulating puerperal infection J HARTMANN Bull Soc d'obst et de gynec de Par, 1935, 24 102

The part played by anaerobic infection in the etiology of puerperal diseases The clinical picture, diagnosis, and treatment of these diseases MOROSOVA, A N, KOMKOVA, O A, MOROLFVA, A M, and TEREKHOVA, A A Gynec et obst, 1935, 31 128 [41]

Late diffuse puerperal peritonitis R KELLER Bull Soc d'obst et de gynec de Par, 1935, 24 108

The serum treatment of puerperal fever G LAKNER Magy Nogygy, 1934, 3 170

A case of pelvic thrombophlebitis M MOREL Bull Soc d'obst et de gynec de Par, 1935, 24 62

A case of retained gangrenous placenta J C DUTTA Indian M. Gaz, 1935, 70 77

Puerperal prophylaxis with gravitol BENTHIN Deutsche med Wchnschr, 1934, 2 1130

Newborn

Respiratory failure, including so-called asphyxia neonatorum III Treatment. A MONCRIEFF. Lancet, 1935, 228 664

Asphyxia neonatorum treated by tracheal intubation. J B BLAKLEY and G F GIBBERD Lancet, 1935, 228 736

A clinical and medicolegal study of atelectasis of the newborn T LUZZATTI Policlin, Rome, 1935, 42: sez prat 176

A case report and the etiology of cephalohematoma E STRYNEBERG 1934 Basel, Dissertation

Congenital amputation of the fingers by amniotic bands DFLMAS and BATLLE. Bull Soc. d'obst. et de gynec. de Par, 1935, 24 82

The physiology and diseases of the newborn, and the female breast H ROSSENHECK Monatsschr f Geburtsh u Gynaek, 1934, 98 52

Congenital anemia of the newborn H D PASACHOFF and L WILSON. Am J Obst & Gynec, 1935, 29: 415

The anemias of infancy and childhood. L G PARSONS and W C SMALLWOOD Practitioner, 1935, 134 298

Increased porphyrin excretion in the newborn and proof of the hematogenous theory of icterus neonatorum L HEROLD Arch f Gynaek, 1934, 158 213

A case of fatal smallpox in the newborn due to contagion from the mother F BARON Bull Soc d'obst et de gynec de Par, 1935, 24 65

Miscellaneous

Obstetrics as a community problem G W. KOSMAK South M J, 1935, 28 231

Hereditary factors in gynecology and obstetrics G A WAGNER Deutsche med Wchnschr, 1934, 2 1425

The sedimentation test in pregnancy, labor, and the puerperium H RASMUSSEN Norsk Mag f Lægevidensk, 1934, 95 1048

Some good and bad procedures in obstetrics H. H. CARTWRIGHT. Texas State M J, 1935, 30 711

Maternal, fetal, and neonatal morbidity and mortality F L ADAIR Am. J. Obst. & Gynec, 1935, 29 384.

An analysis of the maternal mortality in 10,000 obstetrical cases D FEINER Am J Obst & Gynec, 1935, 29 444

Women's contribution to the reduction of maternal mortality M E GARDNER Ohio State M J, 1935, 31: 191

The limits of obstetrics in the home P W SIEGEL Zentralbl f Gynaek, 1934, p 2642

A short review of the work in the maternity division of the Louise Margaret Hospital during the years 1928, 1929, 1930, and 1931 P C FIELD J Roy Army Med Corps, Lond, 1935, 64 106

Birth statistics of the last twenty years in Basel M. JANN 1934. Basel, Dissertation

The production of pregnancy in hibernating bats by the administration of hormones P CAFFIER Zentralbl f Gynaek, 1934, p 2354

Studies on the physiology of lactation I The lactation hormone of the anterior lobe of the hypophysis K J ANSELMI and F HOFFMANN. Zentralbl f Gynaek, 1934, p 2770.

A study of seventy-eight patients with hydatidiform mole J T. SHERMAN. Am J Surg, 1935, 27 237. [42]

Uterus didelphus and chorionepithelioma H DANESI Semana méd., 1935, 42 368

A preliminary report of practical experiences in court for determining hereditary disease and the sterilization of diseased women B Orrow. Zentralbl f Gynaek, 1934, p 2290

Birth pains and the blood of the newborn Z HORVÁTH and C HOLLÓSI Am J Dis Child, 1935, 49 689

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- The action of the adrenal cortex J CHAKRA *Ess 14*
Česk 1934 p 1217
- The pituitary gland in Addison's disease A C CROOKE
 and D S RUSSELL *J Path & Bacteriol* 1935 40 251
 [43]
- Addison's disease with normal arterial tension and retention of potassium URECHIA DRAGONIA and RETE
 2241 *Bull et mém Soc méd d'hop de Par* 1935 31
 300
- A case of Addison's disease cured by the use of supra
 renal opotherapy I MERLE and H COUNELLE *Bull
 et mém Soc méd d'hop de Par* 1935 31 29
- Carcinoma of the suprarenal cortex associated with
 hypertension A LYALL *Brit M J* 1935 1 354
- A case of anuria R C ALEXANDER *Brit J Urol*
 1935 7 45
- Complete bilateral duplication of the renal pelvis and
 ureter G ZAPPALÀ *Polichin Rom* 1935 41 822 prat
 310
- Abnormal positions of the kidneys W C SEXTON
Wisconsin M J 1935 34 184
- Movable kidney V PENNELL *Lancet* 1935 229 261
- The supernumerary kidney R F ROURA *Med rev
 mexicana* 1935 15 44
- The action of certain extracts of the cortex of the kidney
 on urea retention: a therapeutic contribution on uremia
 D M GOMPE *Trease méd Par* 1935 43 210
- Diseases of the kidney O FONTEVELLE *Folia med
 1935* 16 1
- Three unusual cases of renal disease I D ABREU
Brit J Urol 1935 7 34
- Intravenous pyelography S PALCUAL *Med Ibera*
 1935 10 359
- New indication for descending pyelography R GO
 ZALEZ and R PITARCH *Semaná méd* 1935 4 330
- Hydronephrosis simulating a cyst of the right ovary
 R SCHÖRKAPF *Bruxelles méd* 1935 15 356
- Extravasation in the renal pelvis: pyelovenous backflow
 N HORTOLOMEI, S CRANSTEDT STREJZ and T BIRCHFIELD
Rev rom Urol 1934 3 170
- Pyelovenous reflux: roentgenological demonstration
 J SALLERAS *Semaná méd* 1935 42 104
- Rupture of the kidney pelvis: a review of the literature
 R S ABESHOSE *Surg (ynec & Obst* 1935 60 750
- Unusual fever and a case of hydronephrosis D TADDEI
Rassegna internaz di clin e terap 1935 16 12
- Follicular pyelitis L BACCARINI *Chin chir* 1935
 11 86
- Colon bacillus pyelitis in an infant seven months old.
 E BARNAILLON *Bull Soc d'hist et de gynéc de Par*
 1935 34 40
- Renal tuberculosis M F GREENBERGER L P WER
 SHUS and O ADERBAUM *J Am M Ass* 1935 104 726
- Renal tuberculosis I Histopathology and patho-
 genesis D BANG *Fdinburgh M J* 1935 42 162
- Renal tuberculosis II The bacteriological character-
 istics of the tubercle bacilli J M ALSTON and A S
 CRITCHFIELD *Fdinburgh M J* 1935 42 175
- Renal tuberculosis III Tubercle bacillus and its
 significance W T MUNRO *Edinburgh M J* 1935 42
 177
- A small tuberculous cavity in the kidney diagnosed by
 retrograde pyelography P B ZAPROSA *Med Ibera*
 1935 10 91

- Is nephrectomy always indicated following a diagnosis
 of unilateral renal tuberculosis? S R WOODBURY and
 H C BRIDGES *J Am M Ass* 1935 104 16 [45]
- Late hereditary syphilis of the kidneys R VALVERDE
J d'uroi méd et chir 1935 39 35
- The development and prevention of recurrence of renal
 stones K BOSHAMER *Chirurg* 1934 6 820
- Calculi in the renal tubules R H O B ROYALOV
Proc Roy Soc Med Lond 1935 28 570
- The association of renal calculi and hypernephroma.
 G GORDON TAYLOR *Brit J Urol* 1935 7 41
- The complete dissolution of a large renal calculus W
 M KEARNS *Wisconsin M J* 1935 34 170
- The surgical management of renal calculi R BELL
J Med Ass Georgia 1935 4 90
- Solitary cyst of the kidney: a clinical and experimental
 study L JANDORF *J d'uroi méd et chir* 1935 39
 18
- Solitary renal cysts: their symptoms when situated at
 the upper pole of the right kidney W C QUINCY and
 E F BAICUT *J Urol* 1935 31 201
- A case of polycystic disease of the kidneys A C DRY
Indian M Ga 1935 0 82
- The suppurating polycystic kidney J F GEILINGER
Am J Surg 1935 27 531
- Note on the later history of a case of nephrectomy for
 polycystic kidney H T MURSELL *Brit J Urol* 1935
 7 40
- Transposition of the right kidney as the result of a peri-
 nephric hematoma H F WINSHAW WHITE *Proc Roy
 Soc Med Lond* 1935 28 579
- The Graetz tumor A DE SAU THIAGO and Y B
 BENCHOT *Rev brasil de chirug* 1935 4 27
- Intra-operative irradiation of cortical renal tumors C A
 WATKINS *Am J Roentgenol* 1935 33 140 [43]
- Malignant tumors of the kidney in children, with a
 report of six cases E A POWELL and G RITCHIE *Radi-
 ology* 1935 24 103 [43]
- A malignant nephroma with metastatic involvement of
 the left clavicle J E M THOMSON and L F FENCOR
Internat J Med & Surg 1935 49 77
- Transperitoneal nephrectomy for malignant tumors of
 the kidney L R WHARTON *Surg Gynec & Obst* 1935
 60 640
- Contributions on the pathology and clinical aspects of
 squamous cell carcinoma of the renal pelvis F FRAN-
 CESINI *Arch ital di urol* 1935 12 30 [44]
- Adenocarcinoma of the kidney recurrent after twenty
 years R C GRAVES and R L MARRY *New England
 J Med* 1935 212 416
- The importance of the polar artery of the kidney in con-
 servative renal surgery A QUEVEDO *Med rev mexicana*
 1935 15 1
- Renal sympathetomy and renal sympathetotomy
 S H HARRIS *Lancet* 1935 228 424
- The clinical aspects of nephrectomy S A RAY *Med
 J Australia* 1935 1 360
- Congenital dilatation of the ureter P BILMEL *Beitr
 z klin Chir* 1934 160 5
- A case of dilatation of the ureter A SLAVIERO *Chin
 chir* 1935 11 72
- A contribution on femoral hernias of the ureter A
 BIASINI *Arch ital di urol* 1935 12 5 [44]
- Lesions of the ureter produced in the course of operation
 and their treatment G DELLEPANE *Urologia* 1935
 1 5 [44]

- Gunshot wounds of the ureter. C P HOWLEY and T F HOWLEY *Am J Surg*, 1935, 27 513
- Nephropexy for ureteral kinks A RILEY *Am J Surg*, 1935, 27 534
- The treatment of ureteral calculi *Proc Roy Soc Med*, Lond, 1935, 28 582
- Neurofibroma of the ureter Report of a case with operation and recovery A RAVICH *Arch. Surg*, 1935, 30 442
- Ureterorectal anastomosis T N HEPBURN *New England J Med*, 1935, 212 503
- An extraperitoneal method of transplanting the ureters into the sigmoid F H LAHEY *Am J. Surg*, 1935, 27 435

Bladder, Urethra, and Penis

- A rare mechanism of extraperitoneal rupture of the bladder with simultaneous subcutaneous rupture of the left rectus muscle G. SCOLLO *Polichin*, Rome, 1935, 42 sez prat 221
- Experimentally produced hernias of the mucosa of the urinary bladder E FRANCESCHI *Clin chir*, 1935, 11 3 [45]
- Hernia of the bladder as a surgical problem A GRABER *Polski Przegl chir*, 1934, 13 449
- A case of diverticulum of the bladder complicated by incarceration in an inguinal hernia A GRABER *Polski Przegl chir*, 1934, 13 461
- There is no transitional form between the two types of bladder worms (*Echinococcus cysticus* and *Echinococcus alveolans*) A POSSELT *Frankfurt Ztschr f Path*, 1934, 47 194
- Large concentrically laminated fibrinous balls unattached in the bladder E P WEBER *Proc Roy Soc Med*, Lond, 1935, 28 582
- The indications for, and results of, total cystectomy for cancer of the bladder. W C QUINBY *New England J Med*, 1935, 212 501
- Bladder catheterization D K ROSE *J Missouri State M Ass*, 1935, 32 94
- The use of a retention sound following operation for vesical calculus A MOUKIL *Presse méd*, Par, 1935, 43 245
- Perineal drainage for certain bladder operations G ILLYÉS *Brit J Urol*, 1935, 7 1
- Cystectomy, a method of retroprostatoseminal vesiculocystectomy. F HINMAN *Surg, Gynec & Obst*, 1935, 60 685
- A new female urethroscope and infant vaginoscope P M BUTTERFIELD *J Urol*, 1935, 33 310
- A case of calculus formation in the preputial sac V N TRIPATHI *Indian M Gaz*, 1935, 70 140
- Epithelioma of the penis A L DEAN, JR *J Urol*, 1935, 33 252 [45]

Genital Organs

- Congenital genital anomalies M L QUADRAS-BORDES *Med Ibera*, 1935, 19 249
- The operation for sterilization in the male J SCHUELLER *Zentralbl f Chir*, 1935, p 2360
- Prostatic hypertrophy N G ALCOCK *J Am M Ass*, 1935, 104 734
- The prostate as a focus of infection in trauma T E P GOCHER *Northwest Med*, 1935, 34 98
- Chronic prostatitis and prostatic calculus, treatment by incision with the electrocautery. G J THOMPSON and E N COOK *J Am M Ass*, 1935, 104 805 [46]
- The morphology of small prostatic carcinoma R A MOORE *J Urol*, 1935, 33 224
- On the frequency of occurrence of occult carcinoma of the prostate A R RICH *J. Urol*, 1935, 33 215

- Carcinoma of the prostate with metastases R. C. GRAVES and R. E. MILITZER. *J. Urol*, 1935, 33 235 [46]
- An explanation and evaluation of prostatic resection addressed to the general practitioner E H FITE *J Oklahoma State M Ass*, 1935, 28 93
- Transurethral prostatic resection; a report of 551 resections H. L. KRETSCHMER *South. M J*, 1935, 28 197
- Prostatic electroresection. M BAILLIE *Brit J Urol*, 1935, 7 33
- Prostatectomy as performed by Andrew Fullerton. W A PAGE *Brit M J*, 1935, 1 578
- Suprapubic prostatectomy with closure S H HARRIS *Australian & New Zealand J Surg*, 1935, 4 226
- Testicular biology, scrotal function, and the male sex hormone C. R. MOORE *New England J. Med*, 1935, 212 422 [47]
- Ectopic testicle B S MCCLINTIC *Am J Surg*, 1935, 27 540
- The ectopic testis as a cause of ureteral dilatation G C PRATHER *New England J. Med*, 1935, 212 413
- The report of unusually large malignant growth in an undescended testis E J O'BRIEN *New England J Med*, 1935, 212 420
- The treatment of undescended testicle F I HARRIS *Am J Surg*, 1935, 27 447
- The use of gonadotropic hormones in the treatment of undescended testes, preliminary report A W SPENCE and E F SCOWEN *Proc Roy Soc Med*, Lond, 1935, 28 427
- The technique of operation for undescended testicle C M McKENNA *Internat J Med & Surg*, 1935, 48 62
- Abdominal hydrocele A D CHARTERS *Brit M J*, 1935, 1 470
- Calcified hydrocele of the tunica vaginalis testis C J E KICKHAM *New England J Med*, 1935, 212 419
- A contribution to the study of chronic so-called aspecific orchitis and epididymitis L. BACCARINI *Arch ital di chir*, 1935, 39 176 [47]

Miscellaneous

- The differentiation and aberrations of sex characteristics W BLAIR-BELL *Brit M J*, 1935, 1 515
- Palpation of the female pelvic ureters D W TOVEY *J-Lancet*, 1935, 55 139
- The sedimentation test in urology R BOUCHARD-POTOCKI *J d'urolog méd et chir*, 1935, 39 45
- The diagnostic value of urine diastase J FOGED *Am J Surg*, 1935, 27 439
- Hematuria P S DE GUEVARA *Rev de cirug, Hospital Juarez, Mex*, 1935, p 93
- The gastro-intestinal manifestations of urological disease S A PORTIS and J S GROVE *J Am M Ass*, 1935, 104 710
- The report of a urological case discovered in the course of examination for another ailment E H TROWBRIDGE *New England J Med*, 1935, 212 421
- Traumatic injuries of the kidney, ureter, and bladder K SCHEEL *Zentralbl f Chir*, 1934, p 1883 [47]
- Tuberculosis of the genital tract. H H YOUNG *J. Am M Ass*, 1935, 104 722
- Quartz-light therapy in urogenital tuberculosis S L. WANG *J Am M Ass*, 1935, 104 720
- A study of dissociating streptococci and their electrical charges in infections of the genito-urinary tract N. J. HECKEL, L. B. JENSEN, and I. H. WOOD *J Urol*, 1935, 33 284
- Active immunization against gonorrhea with living gonococci R BERTOLOTY and L. HERRÁIZ *Med Ibera* 1935, 19 137

Surgical complications in the treatment of gonorrhea
indications and methods A E GOLDSTEIN J Am M
A 1935 104 800
Lymphogranuloma inguinale G NOVY Jr California
& West Med 1935 42 149
The venereal origin of granuloma inguinale T B
MENON and P NATESAN Indian M Cas 1935 9 66
Tumors in the inguinal canal (extraperitoneal) H N
MACKECHNIE Internat J Med & Surg 1935 48 72

Recent advances in instrumental urology J F Mc
CARTHY J Urol 1935 33 303
Auto-urotherapy T CARMO J d urol méd. et chir.
1935 39 55
Auto-urotherapy H JALSON J d urol. med et chir
1935 39 58
The causes of death following urological operations
A HYMAN and W H MENCHER J Urol, 1935 33
315

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones Joints Muscles Tendons Etc

The arteries of the long bones of man N J ANKROFF
Ztschr f Anat. 1934 103 735 [49]
Congenital osteosclerosis (marble bone) C M LOUD-
ERS Ann Int Med 1935 8 666
Secondary marble bones F P WEBER. Lancet, 1935,
2 8 317
A casuistic report on osteopetrosis J DEWEL 1934
Cologne Dissertation
Some clinical aspects of post traumatic painful osteo-
porosis L G KERRMAN J Med Cincinnati 1935
26 21
Osteomalacia in Great Britain F BURMER Lancet
1935 225 740
The conditions and elements of roentgenological vis-
ualization of pathological bone changes L LOFFLER
Deutsche Ztschr f Chir 1934 243 687
Unusual pyogenic osteomyelitis J KULOWSKI J
Missouri State M Ass 1935 32 85
Hydrotherapy in the treatment of osteomyelitis R T
Hudson Kentucky M J 1935 33 117
Infectious foci in the bone near the joints P ROETH
LISBERGER Schweiz med Wchnschr 1934 3 1007
Actinomycosis of the bones H BEITZKE 1934 Berlin
Springer
Tuberculosis of bone and injury F V CASO Mo
natschr f Unfallheilk 1934 41 557
A case of osseous tuberculosis multiple cysts D R
CHRISTOLM Canadian M Ass J 1935 32 302
A rare mycosis of the bones and joints H BEITZKE
1934 Berlin Springer
Paget's disease and tumors of the parathyroid glands
R KLENBOCK Beitr z klin Chir 1934 160 30
Benign tumors R D SCHROCK South M J 1935 28 213
Multiple myeloma D FAKER and B FIEBERMAN
Ann Int Med 1935 8 1062
Hyperproteinaemia autohemagglutination renal insuffi-
ciency and abnormal bleeding in multiple myeloma
A G FORD Ann Int Med 1935 8 1071
Neoplastic metastases simulating multiple myeloma
G MARCEL L MALLIE P SOLLE and G ALBOT Bull
et mém Soc méd d hop de Par 1935 51 256
Hence Jones proteinemia in multiple myeloma CAN
TAROW Ann J M Sc 1935 189 425
The problem of osteitis fibrosa B NIEDERLE Rozhl
Chir & Gynaek C chir 1934 13 190
An authentic report of the first case of von Peckling-
hausen's disease of bone treated by removal of parathyroid
glands F MARDEL Beitr z klin Chir 1934 160 205
Malignant bone tumors C ROYNE Geneesk Tijdschr
v Nederl Indië 1934 74 1250
The Codman and Ewing tumors. II So-called bone
sarcoma C ROYNE Nederl Tijdschr v Geneesk
1934 p 236

Giant-cell sarcoma of the long bones H W HESS
Arch f path Anat 1934 293 493
Constitutional diseases of infancy in orthopedic surgery
M R MORENO Semana méd 1935 42 90
Dyschondroplasia (Ollier's disease) D HUNTER and
P WILKS Brit J Surg 1935 22 50, [49]
Osteochondritis J F BRATSFORD Brit J Radiol
1935 8 87 [50]
Joint thermometry V PUTTI and C CASECETO Chir
d organi di movimento 1934 29 427 [51]
Chronic disease of the horse J SKVARIL Rozhl Chir
& Gynaek C chir 1934 13 51
An evaluation of the roentgen findings in gonorrheal
arthritis I J KARO Am J Roentgenol 1935 33 352 [52]
Gonococcal arthritis R A GARCIA Rev de cirug
Hospital Juarez Mex 1935, p 59
Gonococcal arthritis A ARROYO Rev de cirug Hos-
pital Juarez Mex 1935 p 83
Chronic syphilitic arthritis P IENTI Chir d organi
di movimento 1934 29 465 [52]
Actinomycosis of the joints H BEITZKE 1934 Berlin
Springer
Hypertrophic pulmonary osteoarthropathy of Marie
A GASSBARRINI Iohulin Rome 1935 42 sez prat 249
Diets in chronic arthritis F C HALL and W K MYERS
Arch Int Med 1935 55 403
The treatment of chronic arthritis by diet and sunlight.
L LANGSTROTH California & West Med 1935 42 145
The possible rôle of surgery in the treatment of progres-
sive deforming polyarthritis and chronic rheumatism. The
condition of patients with these conditions R LEMICHE
Rev de chir Par 1935 54 5
Injuries due to muscle pull H FISARK Fjeden d
Chir u Orthop 1934 27 255
Rheumatism in spontaneous muscle and tendon rup-
tures A J PUTTI Cas lek česk 1934 p 123
Three cases of musculopapular sarcoma treated
with antirabies virus vaccine J MAGNEVAL L CRU-
VILLIER and I GALLY Bull et mém Soc méd d hop
de Par 1935 51 341
The treatment of rheumatism H B CHAIKAM Ann
Otol Rhinol & Laryngol 1935 44 181
The phenomenon of scapular snap R MEYER WILDS
GEN Schweiz med Wchnschr 1934 3 1017
A four year cure following an interscapulothoracic
amputation for sarcoma of the upper extremity of the
humerus which has finally been diagnosed as a giant cell
sarcoma R LERATHE Bull et mém Soc nat de chir
1935 61 247
Subcutaneous rupture of the biceps and its treatment
H HANKE Deutsche Ztschr f Chir 1934 243 807
Traumatic chondrolysis of the elbow RITZER. Zen-
trabl f Chir 1934 p 203
The sequelae and late sequelae of rupture of the collateral
ligaments of the elbow and some proposals as to treatment
E. DZURZ. Deutsche Zt chr f Chir 1934 243 10

The development and treatment of malacia of the lunette bone—Kienboeck's disease O HULTÉN Acta chirurg Scand, 1935, 76 121 [53]

Volkman's contracture D S BAUGHMAN. J.-Lancet, 1935, 55 158

A new apparatus for the treatment of contractures of the fingers and wrist K KROEMER Chirurg, 1934, 6 780

A characteristic change in the fingers of milkers G CALCHI NOVATI and C COSSALI Radiol med, 1935, 22 27 [53]

The vertebral column in traumatology E RUGE 1934 Berlin, Vogel

Hypertrophic arthritis of cervical vertebrae with thenar muscular atrophy occurring in three sisters E G ZABRISKIE, C C HARE, and R J MASSELINK Bull Neurol Inst New York, 1935, 4 207

Backache, a symptom P B MAGNUSON J Kansas M Soc, 1935, 36 89

Movements of the lumbar vertebrae during flexion and extension P WILES Proc Roy Soc Med, Lond, 1935, 28 647

A primary hemangioma of the third lumbar vertebra. S K LIVINGSTON Am J Roentgenol, 1935, 33 381

Fibrositis, lumbago, and sciatica C W. BUCKLEY Practitioner, 1935, 134 129 [53]

Resection of a vicious callus of the femur RICARD Lyon chir, 1935, 32 99

Pellegrini-Stieda disease T M OXFORD Am J Surg, 1935, 27 543

Pellegrini-Stieda disease L F MILLER and L J. MILLER. Am J Roentgenol, 1935, 33 383 [54]

The histopathology of the synovial membrane of the knee in non-specific diseases A LAEWEEN and A BILBL. Beitr z klin Chir, 1934, 160 449.

The late result of bilateral synovectomy for tuberculous synovitis of the knee ALGLAVE Bull et mém Soc nat de chir, 1935, 61 159

Primary isolated chronic osteomyelitis of the fibula, diaphysectomy O F MAZZINI Semana méd, 1935, 42 195

Criticism of the ordinary shoe D D ASHLEY Med Rec, New York, 1935, 141 276

Minor maladies of the foot A S B BANKART Lancet, 1935, 228 249

A foreign body in the middle metatarsal bone C R KESSEL West Virginia M J, 1935, 31 123

Some reflections on the etiology of Koehler's disease A ZEITLIN Radiology, 1935, 24 360

Surgery of the Bones, Joints, Muscles, Tendons, Etc.

The treatment of osteomyelitis in children H SALZER Wien klin Wchnsch, 1934, 2 1389

The recognition and treatment of bone sarcoma F TOMÁNEK. Rozhl Chir a Gynaek Č chir, 1934, 13 134 [55]

A painful amputation stump PROUST Bull et mém Soc nat. de chir, 1935, 61 253

The result after four and one-half years of operations on the sympathetic system for chronic polyarthritis R LERICHE and A JUNG Rev de chir, Par, 1935, 54

Resection for arthrodesis of the wrist TAVERNIER Lyon chir, 1935, 32 103

Rapid rhythmical movements an alternative to osteopathic manipulations for the cure of back pain T S WILSON. Proc Roy Soc Med, Lond, 1935, 28 629

Fundamental indications and contra-indications for ankylosing operations on the spine J FARILL Med rev mexicana, 1935, 15 55

The treatment of coxa vara with a vertical fissure during adolescence. TAVERNIER and POUZET Lyon chir, 1935, 32 65

Disarticulation of the hip with temporary hemostasis of the common iliac or hypogastric artery C. I GHITZESCO Presse méd, Par, 1935, 43 243

Resection arthrodesis as a method of treating tuberculous coxitis in the adult G DÍAZ Ztschr f orthop Chir, 1934, 62 252 [56]

Arthrodesis with a bone graft for tuberculosis of the knee R GOURDON J de méd de Bordeaux, 1935, 112 101

Synovectomy for tuberculosis of the knee A RICHARD Bull et mém Soc nat de chir, 1935, 61 223

A case of primary early diaphysectomy for acute osteomyelitis of the tibia histological and chemical examination of a resected bone LOUBAT, CRÉTIN, and MAGENDIE J de méd de Bordeaux, 1935, 112 93

Total tibiotarsal resection for tuberculous osteo-arthritis of the ankle A BASSET Bull et mém. Soc nat de chir, 1935, 61 255

The treatment of hammer-toe W S CREER Brit M J, 1935, 1 527

Fractures and Dislocations

Dislocations J BAUMANN Med Klin, 1934, 2 1253

Fracture seminar H I BERNARD Colorado Med, 1935, 32 188

Fracture of newly formed bone B FUCHS Lancet, 1935, 228 673

Fat embolism following fractures H HAUSWALD 1934 Leipzig, Dissertation

Clinical observations on the healing of subchondral avulsions of bone M ERNST. Arch f klin. Chir, 1934, 179 637

Disturbances in the healing of fractures H TAMMANN Beitr z klin Chir, 1934, 160 544

A bone fragment wedged within the line of fracture as an indication for open reduction P. ROSTOCK Monatsschr f Unfallheilk, 1934, 41 451

Fine mechanics in the treatment of fractures H SCHUPP Chirurg, 1934, 6 681

The treatment of bone defects following fractures J. SCHULZ Zentralbl f Chir, 1934, p 2861.

Calcium therapy for fractures HOFFHEINZ Zentralbl f Chir, 1934, p 2568

The use of a central peg in the treatment of fractures of the long bones C VOHNOUT Rozhl Chir a Gynaek Č chir, 1934, 13 45

The technique of application of the unpadded plaster cast W SCHMID. Muenchen med Wchnsch, 1934, 2: 1063

One year's experience with the Anderson splint. W A STEEL and J N. GROSSMAN Internat Clin, 1935, 1 126.

The results of operative treatment of fractures, with particular reference to the healing of foreign bodies E. LAU 1934 Leipzig, Dissertation

Studies on the oligodynamic action of metals in the healing of fractures. MACKUTH Zentralbl f Chir, 1934, p 2295

On the question of the reaction of bony tissue to the introduction of steel, one of the causes of complications of osteosynthesis M. M LÉWINE Lyon chir, 1935, 32 11 [57]

Habitual bilateral, suprasternal dislocation of the clavicle A FABER Ztschr f orthop Chir., 1934, 62. 112

Complete acromioclavicular dislocation An apparatus for its non-operative reduction C E OTTOLENGHI and E H LAGOMARSINO Rev. d'orthop, 1934, 4 157. [58]

- Conservative treatment of T and Y fractures of the arm F G SCHNAPF Zentralbl f Chir 1934 p 342
- The treatment of open fracture of the distal end of the humerus FOELZEL Zentralbl f Chir 1934 p 229
- The treatment of supracondylar fractures of the humerus K DEUTSCHLAENDER Chirurg 1934 6 733
- Open reduction of supracondylar fractures of the humeri in children J LEVEY and H GOODARD J de chir 1935 45 358
- Fractures of the humerus end results from treatment R A GORMLEY and R J MROZ Surg Gynec & Obs 1935 60 730
- External incomplete lateral dislocation of the elbow A SERRA Semana med 1935 42 364
- Fractures in and around the elbow H R MCKEY Colorado Med 1935 32 195
- Fractures of Monteggia A INGLAN Cirug ortop v traumatol 1934 2 93
- End results of the treatment of fractures of the upper extremity of the radius R FONTAINE and R BAUER J de chir 1935 45 110
- Plaster of Paris in the treatment of Colles fracture H BLAUVELT and F W WILLWAY Lancet 1935 128 609
- Two cases of dislocation of the lunate bone F SCHYER Zentralbl f Chir 1934 p 2576
- Four operations by dorsal incision for retrolunar dislocation of the carpus J COLMIER Bull et mém Soc nat. de chir, 1935 61 286
- Fracture of the metacarpals and phalanges R W MCNEELY and M F LICHTEN TEIN West J Surg Obst & Gynec 1935 43 156
- Two cases of open reduction of the lunate bone by the dorsal route H MERZ Bull et mém Soc nat de chir 1935 61 286
- Dislocations of the cervical spine T P BROOKES J Am M Ass 1935 104 901
- Fracture of the bodies of the cervical vertebrae in swimming and gymnastic exercises H HELLNER Muenchen med Wchnschr 1934 2 1015
- Fracture dislocation and fracture-dislocation of the spine A G MCKENZIE Canadian M Ass J 1935 32 263
- Fracture of the spine R G PACKARD Colorado Med 1935 32 199
- Fractures of the vertebrae with spinal cord lesions Indications for laminectomy A J MCLEAN Northwest Med 1935 34 81
- Infraction of the cortex of the upper or lower surface of the vertebral bodies a frequently unrecognized fracture M MEYER J de med de Bordeaux 1935 112 98
- Early treatment of congenital dislocation of the hip G PICCAGGI Chir d organi dimovimento 1934 19 473

- An extension apparatus for the treatment of congenital dislocation of the hip P PITZEN Ztschr f orthop Chir 1934 61 110
- High diaphyseal osteotomy for irreducible congenital dislocation of the hip M R FRANCELLO Ztschr f orthop Chir 1934 61 71
- Avulsion of the trochanter minor KOCHS Zentralbl f Chir 1934 p 2644
- Fractures of the neck of the femur L E SNOODGRASS Am J Surg 1935 27 497
- The treatment of fractures of the femur P A BEN STEEN West J Surg Obst & Gynec 1935 43 143
- The management of fractures of the neck of the femur E B RESCHTS and H G SCHLER J Indiana State M Ass 1935 28 121
- Fractures of the neck of the femur, Whitman abduction treatment A THOMAS Colorado Med 1935 32 184
- The treatment of open fractures of the shaft of the femur C CHAN Chinese M J 1935 40 111
- The treatment of fractures of the upper third of the femur C G SANFACILZ Rev de cirug Hospital Juarez Mex 1935 p 1
- The treatment of fractures of the upper third of the femur C FRAZ Rev de cirug Hospital Juarez Mex 1935 p 33
- Extra articular osteosynthesis in medial fractures of the neck of the femur F FRIEDRICH Chirurg 1934 6 834 Zentralbl f Chir, 1934 p 2579
- The repair of medial and subcapital fractures of the neck of the femur by the Smith Petersen method HESSE Zentralbl f Chir 1934 p 2565
- An apparatus for the reduction of fractures of the neck of the femur P M DAVENPORT Bull et mém Soc nat de chir 1935 61 211
- Union of an ununited fracture of the neck of the femur following trochanteric osteotomy S A S MALKIN Proc Roy Soc Med Lond 1935 28 641
- Ununited fractures of the neck of the femur M S HENDERSOV West J Surg Obst & Gynec 1935 43 154
- Fracture of the lower fourth of the tibia and fibula left leg D McCARTER Proc Roy Soc Med Lond 1935 28 642
- Fractures in and about the ankle F H HARTSHORN Colorado Med 1935 32 192
- Navicular fracture as a sport injury M MARXTS 1934 Leipzig Di attation
- Reduction of fractures of the calcaneus R BLOOM Bull et mém Soc nat de chir 1935 61 211

Orthopedics in General

- The orthopedic problem in Ireland C SOMERVILLE LANCET Irish J M Sc 1935 No 110 81

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

- Disturbances in the peripheral circulation G F BROWN Minnesota Med 1935 18 10
- Circulatory diseases of the extremities J FRASER Brit M J 1935 1 401
- The clinical value of alternate suction and pressure in advanced peripheral vascular disease F M LANDS and L H HITTORY Am J M Sc 1935 110 305
- Vascular crises D RUFMAN Ann Int Med 1935 8 1047

- Thrombophlebitis migrans with an illustrative case M L POWELL Med J Australia 1935 1 336
- Tumors of blood vessels L F ESCHICKER and L E KEASBY Am J Cancer 1935 23 505
- Arteriography A roentgenographic study of the peripheral arteries of the living subject (Hilsmann), their injection with a radiopaque substance L V ALLEN and J D CAMP J Am M Ass 1935 104 615
- Arteriographic studies of arteriovenous dystrophies congenital neuro-ectodermal dysplasias P FRIED and A LEVY Lyon chir 1935 32 43

Arteriography for obliterative aortico-iliac aneurism
Lumbar sympathectomy LERICHE and FRIEH Lyon
chir, 1935, 32 59

Accidents in arteriography O LAMBRET. Bull et mém
Soc nat de chir, 1935, 61 173

The benignity of arteriography with thorotrast R
LERICHE Bull et mém Soc nat de chir, 1935, 61 175.

Accidents in arteriography G LECLERC Bull et mém
Soc nat de chir, 1935, 61 180

The vasomotor action and dangers of the contrast media
used in arteriography Experimental research and clinical
results X J CONTIADES, J NAULLEAU, and G UNGAR
Bull et mém Soc nat. de chir, 1935, 61 187 [62]

Observations on the contrast media and the mechanical
factors used in arteriography. L BAZY, H REBOUL, and
M RACINE. Bull et mém Soc nat de chir, 1935, 61 198
[62]

A traumatic arteriovenous aneurism of the right super-
ficial temporal artery and vein J J. HOCHFILZER Min-
nesota Med, 1935, 18 158

Arteriovenous aneurism as a factor in cardiovascular
decompensation, the effect of operation G LAMI Ri-
forma med., 1935, 51 62

Aneurismorrhaphy for arteriovenous aneurism of the
popliteal vessels H NEUHOF Ann Surg, 1935, 101 944

Remarks on the arteritis of subacute malignant endo-
carditis N FIESSINGER, A RAVINA, and R MESSINY
Presse méd, Par, 1935, 43 321 [62]

The use of intra-arterial injections of novocain in painful
types of obliterating arteritis R LERICHE and R FON-
TAINÉ Bull et mém Soc nat de chir, 1935, 61 224

Lumbar sympathectomy for endarteritis obliterans
O ZIMMERMANN Wien klin Wchnschr, 1934, 2 1434

Infrared photography of the subcutaneous veins L M
ZIMMERMAN and H RATTNER Am J Surg, 1935, 27 502

Varicose veins of the lower extremity, with special con-
sideration of their development and treatment E
SCHWARZ Ergebn d Chir, 1934, 27 256 [63]

The treatment of varices A DE DIEGO LÓPEZ Med
Ibera, 1935, 19 292, 326

Varicose veins Observations on treatment E A
NIXON Northwest Med, 1935, 34 91

Blood; Transfusion

Estrogenic, luteal, and gonadotropic hormones in hemo-
philia W B CHEW, R P STETSON, G VAN S SMITH, and
O W SMITH Arch Int Med, 1935, 55 431

The prognosis and treatment of hemophilia H LEHN-
DORFF Wien klin Wchnschr, 1934, 2 1329

A new case of primary septicemia due to the bacillus
funduliformis P DE FONT-REAUUX Bull et mém Soc
méd. d hop de Par, 1935, 51 72

A pseudotypoid type of streptococcal septicemia of
focal origin M BUFANO Policlin, Rome, 1935, 42
sez prat 215

Blood transfusion J TENCONT Semana méd, 1935,
42 176

The indications and technique for blood transfusion.
F A KNOTT Practitioner, 1935, 134-331.

Blood transfusion as an alternative R STAHL Med
Welt, 1934, p 1154

An experimental study of autotransfusion III The
effect of autotransfusion on the character of the blood
T KUBOTA Jap J Obst & Gynec, 1935, 18: 73

The transfusion of preserved blood, a clinical contribu-
tion G JEANNENEY Clin y lab, 1935, 20 25

The clinical transfusion of postmortem blood C SKU-
DINA and S BARENBOIM Verhandl d 22 Kong d Chir
d U S S R, Moscow, 1934, p 136 [64]

Blood transfusions in cases of cancer R M PENA
Rev mexicana de cirug, ginec y cáncer, 1935, 3 85

Renal shock and anuria following transfusion DAC-
MERIE, BRUENS, and WAUTERS Bruxelles-méd, 1935, 15
324

The effects of blood transfusions on donors J W
MARTIN and J T MYERS J Lab & Clin Med, 1935,
20 593

Laboratory studies on the occurrence of hemolysis in
conserved blood J LINDENBAUM and X STROIKOVA
Deutsche Ztschr f Chir, 1934, 243 727

Lymph Glands and Lymphatic Vessels

Lymphatic drainage of the head and neck, emphasizing
special structures W W LOONEY Ann Otol, Rhinol
& Laryngol, 1935, 44 33

Supravital staining in the diagnosis of the leukemias
R LIGHTWOOD, J C HAWKLEY, and U M BAILEY.
Proc Roy Soc Med, Lond, 1935, 28 405 [65]

The diagnosis of leukemic states R R KRACKE and H
GARVER J Am M Ass, 1935, 104 697

Leukemia, its diagnosis and treatment N ROSENTHAL
and W HARRIS. J Am M Ass, 1935, 104 702 [65]

Lymphadenoma H RITCHIE Med J Australia, 1935,
1 197

Hodgkin's disease G F S DAVIES Med J Australia,
1935, 1 199

An unusual case of jaundice associated with Hodgkin's
disease G T BURKE and M A HAMID Indian M
Gaz, 1935, 70 147.

A malignant lymphoid tumor in an infant ARMAND-
DELILLE, BABLET, and BLOCH Ann d'anat path, 1935,
12 91

Lymphosarcoma, a clinical, pathological, and radio-
therapeutic study, with a report of thirty cases M
CUTLER Arch Surg, 1935, 30 405 [66]

A case of atypical Mikulicz syndrome, lymphosarcoma-
tosis O E ISAUERLALDE and J IANNI Semana méd,
1935, 42 127

The treatment of Mikulicz's disease F M HODGES
South M J, 1935, 28 205

SURGICAL TECHNIQUE

Operative Surgery and Technique; Postoperative Treatment

The Kauffmann water test of cardiac function preceding
operation H MÜLLER 1934 Frankfurt a M, Dis-
sertation

Large quantities of fluids intravenously Principles and
practice for their use C. B. TAYLOR Northwest Med
1935, 34 75

Potassium permanganate as an oxidizing agent in sur-
gery J REISS Rozhl Chir a Gynaek C chir, 1934, 13
68

Operation and carbohydrate metabolism H FLSS
Deutsche med Wchnschr, 1934, 2 1627.

Skin grafting. J V GOODE Ann Surg, 1935, 101 927

A new and simple method of solving the most difficult
problems of plastic surgery of the face J F S ESSER
Presse méd, Par, 1935, 43: 325

Some conclusive remarks regarding plastic surgery from personal experience J C BECK. *Ann Otol. Rhinol. & Laryngol* 1935 44 90

The management of the ingrowing toe-nail H S DOLAN. *Canadian M. Ass. J.* 1935 32 203

Esthetic suture V KAPLIK. *Rozhl. Chir. a Gynark. Chir.* 1934 13 20

The diagnosis of impending collapse S RESZYVAK S KARADY and D SZABO. *Deutsche med. Wchnschr.* 1934 2 1670

The administration of oxygen by intranasal catheter L E BARBOV and G M CURTIS. *Ohio State M. J.* 1935 31 106

The use of phenol in minor surgery V JOYR. *Ugeskr. f. Læger* 1934 p 1006

A study of various agents for the local alleviation of pain M SCHNEIDER. 1934 Leipzig Dissertation

The alleviation of pain in carcinoma I AROVOFF. *Clin. bulgar.* 1934 6 362

Humoral studies in postoperative conditions III Modifications of the refractometry index P CAZZAMALI. *Arch. ital. di chir.* 1935 39 1

A study of the postoperative variations in the body fluids II Changes in the blood chlorides and their relation to postoperative changes in the body fluids P CAZZAMALI. *Arch. ital. di chir.* 1934 38 687 [67]

The significance of postoperative rises of blood non-protein nitrogen H A DEROW. *New England J. Med.* 1935 212 500

Does the postoperative leucocytosis vary with the onset of menstruation? A KLEIN. 1933 Leipzig Dissertation

Postoperative accidents and complications E B HOWELL. *J. Iowa State M. Soc.* 1935 2 154

Sudden unexpected death of infants and children following operation E BURM. *Beitr. z. klin. Chir.* 1934, 160 215

Postoperative pulmonary complications H H TURN. *BULL. Australian & New Zealand J. Surg.* 1935 4 245 [67]

Postoperative pulmonary complications G BROWN. *Australian & New Zealand J. Surg.* 1935 4 256 [68]

Thrombosis and embolism A FELLER. *F. R. EFFINGER and W. DRAK. Zentralbl. f. Chir.* 1934 p 1981

The constitutional basis of susceptibility to thrombosis and embolism G VOGL. *Wien klin. Wchnschr.* 1934 2 1133

Air embolism in operations with particular reference to material from the Leipzig University Surgical Clinic during the years from 1912 to 1931 G I G MUELLER. 1934 Leipzig Dissertation

Postoperative pulmonary embolism L R WHARTON. *Internat. Clin.* 1935 1 103

Ossification in postoperative scars P IYVRAA. *Arch. ital. di chir.* 1935 39 20 [68]

Antiseptic Surgery Treatment of Wounds and Infections

Farm work and accidents H BAUMFELDER. *Zentralbl. f. Chir.* 1934 p 1407

The prevention of injuries in skiing K SCHLITZ. *Wien med. Wchnschr.* 1934 2 1385

The treatment of deep puncture wounds due to wires I HEITZE. *Muenchen med. Wchnschr.* 1934 2 1023

The prognosis of crushing injuries of the extremities. M KARASZYNSKI. 1934 Basel Dissertation [68]

Traumatic subcutaneous emphysema J M ATANSON. *Am. J. Surg.* 1935 27 508

Emergency surgery H C FROMT. *Internat. J. Med. & Surg.* 1935 43 64

Early incision into inflammatory areas its indications and contra indications J VYRASSAT. *Rev. med. de la Suisse Rom.* 1935 p 158

Metaphen dermatitis G H BELOTE and D MARSHALL. *J. Michigan State M. Soc.* 1935 34 171

The treatment of suppurative wounds in diabetes and non-diabetics L G GREY. *Semana med.* 1935 42 346

The treatment of cellulitis suppurative and burns J J ROSS. *Brit. M. J.* 1935 1 466

The treatment of burns V BELIAJEVA and B POSTAKOV. *Vestn. Chir.* 1934 34 93

The treatment of burns P THOMP. *Bull. et mém. Soc. nat. de chir.* 1935 61 134

The treatment of burns HARTMANN. *Bull. et mém. Soc. nat. de chir.* 1935 61 162

Thermal burns and their treatment H M LOWELL. *J. Med. Cincinnati* 1935 16 18

The treatment of extensive cutaneous burns H W TRUESLER. *J. Indiana State M. Ass.* 1935 28 111

The treatment of burns with tannic acid P MOORE. *Bull. et mém. Soc. nat. de chir.* 1935 61 214

The tannic acid treatment of burns MITTELSTAEDT. *Kinderarztl. Prax.* 1934 5 132

Nutrition and infection S W CLAUSEN. *J. Am. M. Ass.* 1935 104 703

Infections of the terminal digital phalanx W H PROLEAU. *South M. & S.* 1935 97 127

Tetanus H MOWSON. *Bull. et mém. Soc. nat. de chir.* 1935 61 164

Researches on tetanus II The toxin of the bacillus tetani is not transported to the central nervous system by any component of the peripheral nerve trunks. J J ABER. E. A. EVANS JR. B. HAMPTON and F. C. LEE. *Bull. Johns Hopkins Hosp.* 1935 56 84 [69]

Three cases of cephalic tetanus MURRAY. *J.yon chir.* 1935 32 104

Fatal tetanus following burns of the lower extremities a plea for more general use of tetanus vaccination L BARY. *Bull. et mém. Soc. nat. de chir.* 1935 61 149

The treatment of tetanus A CHALIER and J CHALIER. *Lyon chir.* 1935 32 109

Antitetanic vaccination FAUCET and DE PLAS. *Bull. et mém. Soc. nat. de chir.* 1935 61 246

Tetanus treated with curarine J S MITCHELL. *Lancet* 1935 218 262

A case of tetanus cured by serotherapy and the intra-venous administration of gardenal C LITVINNE and P L DROUOT. *Bull. et mém. Soc. med. d'hop. de Par.* 1935 51 229

Staphylococcus typhoid D S MURRAY. *Lancet* 1935 2 303

Staphylococcus typhoid C E DOLMAN. *Lancet* 1935 218 306

Experimental studies on the specific immunizing power of the staphylococci, bouillon antitoxin J VEBLEN. *Rev. belge d. st. med.* 1934 6 817 [69]

Streptococcal infection simulating ringworm of the hands and feet J H MITCHELL. *J. Am. M. Ass.* 1935 104 1220 [70]

The effect of antistreptolysin on infection of mice by hemolytic streptococci E W TOWN. *J. Path. & Bacteriol.* 1935 40 243

Tularemia H T BALLANTINE. *Internat. J. Med. & Surg.* 1935 43 53

Facial tularemia F STEINMANN. *Illinois M. J.* 1935 67 271

Hexamine as a urinary antiseptic I Its rate of hydrolysis at different hydrogen ion concentrations II Its antiseptic power against various bacteria in the urine R. St. A. HEATHCOTE. *Brit. J. Urol.* 1935 7 9

Anesthesia

- Problems in the hydrodynamics of anesthetics in the subarachnoid fluid of man. Divalent novocain in artificial dural sacs. G. R. VINES. *West J Surg, Obst & Gynec*, 1935, 43: 10 [70]
- The conquest of anesthesia. DI SIGUEIRA and SILVA. *Folia med*, 1935, 16: 44
- New general anesthetic agents and their evaluation. F. H. REISSNER. *Deutsche Zahn- u. Heilz*, 1935, 2: 1
- Avertin in anesthesia. R. M. POOL. *Smith M & S*, 1935, 67: 15
- The influence of avertin upon the renal function. N. F. PITT. *Lancet*, 1935, 225: 741
- Evipan anesthesia, a preliminary report. P. J. McNALLY. *West Virginia M J*, 1935, 31: 129
- Sodium evipan in general practice. P. G. CANNON. *Nederl Tijdschr v Geneesd*, 1935, p. 5137
- Our experiences with intravenous basic sodium evipan anesthesia. DANC DANC. *Schmerz*, 1935, 7: 65
- Anesthesia with ether vapor under pressure. III. The physical basis for ether anesthesia induced with vapor under high pressure. F. J. LAUER. *Zentralbl f Chir*, 1935, p. 2339
- Six hundred cases of anesthesia by means of combined tribromethanol and nitrous oxide oxygen. DE VAKERT. *Arch & Anal*, 1935, 14: 59 [71]

- Our experiences with the Ombredanne mixed anesthetic. G. J. SCHMERZ. 1935, 7: 73
- The diffusion of anesthetics in the spinal canal. A. G. ROJAS. *Rev mexicana de ciruj, ginec y cancer*, 1935, 3: 100
- The height of spinal anesthesia. A. G. ROJAS. *Med rev mexicana*, 1935, 15: 113
- Advances in spinal and local anesthesia. V. DAVID. *Cas lek cas*, 1935, pp. 611-674
- Some experiences with spinal anesthesia. E. R. FRIST. *Brit. M J*, 1935, 1: 107
- Aseptic meningitis, another hazard in spinal anesthesia. H. E. CURRIE. *Chinese M J*, 1935, 40: 119
- The Braun method of inducing splanchnic anesthesia for surgery in the upper part of the abdomen. L. FRANKFURT. *Arch f klin Chir*, 1934, 181: 337
- Rectal anesthesia induced with a mixture of ether, tribromethanol, and oil in cervicofacial surgery. M. JACOB. *Lyon chir*, 1935, 42: 35
- Some principles of local anesthesia. L. ADAM. *Surg, Gynec & Obst*, 1935, 69: 675
- Historical note on the first beginnings of local anesthesia. K. KOTTER. *Wien med Wchnschr*, 1934, 2: 1170
- Fifty years' experience with local anesthesia. C. H. SCH. *Wien med Wchnschr*, 1934, 2: 1177
- The effect of local anesthesia on the small blood vessels. H. BRUN. *Deutsche Ztschr f Chir*, 1934, 245: 550

PHYSICOCHEMICAL METHODS IN SURGERY

Roentgenology

- The luminescent properties of zinc sulphide in relation to the X-rays. L. LEVA and D. W. WEST. *Brit J Radiol*, 1935, 8: 184
- Artefacts in roentgen films. G. C. HISSA. *Radiology*, 1935, 24: 350
- X-rays and the coarse structure of materials. SIR W. H. BRAGG. *Brit J Radiol*, 1935, 8: 144
- The dangers of roentgenoscopy and methods of protection against them. IV. A detailed consideration of the doses received by the fingers of the examiner. E. I. L. CILLEY, B. R. KIRKLIN, and I. T. LADD. *Am J Roentgenol*, 1935, 33: 399
- Roentgen-ray considerations in injury cases. W. S. GRIFFIN. *J Iowa State M Soc*, 1935, 25: 137
- The clinical roentgen diagnosis of internal diseases. H. ASSMANN. 1934. Berlin, Vogel
- Roentgen diagnosis of aneurisms of the innominate artery. C. H. WAFFIELD. *Am J Roentgenol*, 1935, 33: 350
- Some problems in diagnosis and their solution by radiological examination of the alimentary canal. B. R. KIRKLIN. *Proc Roy Soc Med, Lond*, 1935, 28: 549 [72]
- The interpretation of roentgenograms in pulmonary tuberculosis. H. K. TAYLOR. *J Am M Ass*, 1935, 104: 898
- A study of the esophagus in relation to the heart, aorta, and thoracic cage. S. BROWN and J. E. MCCARTHY. *Radiology*, 1935, 24: 131 [73]
- Advances in the roentgen diagnosis of diseases of the vertebrae. H. R. SCHWZ. *Zentralbl f Chir*, 1934, p. 2904
- Cine-radiography. R. J. REXFORD. *Brit J Radiol*, 1935, 228: 135
- A radio-frequency high-voltage apparatus for X-ray therapy. R. S. STONE, M. S. LIVINGSTON, D. H. SLOAN, and M. A. CHAFFIN. *Radiology*, 1935, 24: 298
- The therapeutic use of the X-rays. E. L. LANARI and F. VIERHILLER. *Semana med*, 1935, 42: 93

- Homogeneous X-radiation in biological experiments. W. H. LOVE. *Med J Australia*, 1935, 1: 300
- The biological effects of the roentgen rays on planaria dorotocephala. F. G. MANSFIELD and M. J. KIRBY. *Am J Roentgenol*, 1935, 33: 386
- The results of experimental studies of the peripheral white blood cells after roentgen irradiation. F. HAYER. *Strahlentherapie*, 1934, 50: 193 [73]
- Radiotherapeutic treatment of hypertension and diabetes. J. H. HUTTON. *Radiology*, 1935, 24: 330
- The roentgen treatment of perforating ulcer of the foot. L. GATTF. *Radiol med*, 1935, 22: 164
- Roentgen dermatitis treated with fresh whole leaf of aloe vera. C. E. CORRIAS and C. CORRIAS. *Am J Roentgenol*, 1935, 33: 396

Radium

- Radiumhemmet. F. SCHÖRRCH. *München med Wchnschr*, 1934, 2: 1696
- Physical factors in telurium therapy. W. STRANSTROM. *Am J Roentgenol*, 1935, 33: 296
- Physical factors in interstitial radium therapy. L. H. QUINN. *Am J Roentgenol*, 1935, 33: 306
- Physical factors in intracavity radium therapy. J. L. WATKINSON. *Am J Roentgenol*, 1935, 33: 302
- The intratumoral application of radium. M. RIBBLING. *Rev mexicana de ciruj, ginec, y cancer*, 1935, 13: 89
- The physical determination of radium dosages. O. GLASSER. *Am J Roentgenol*, 1935, 33: 293
- Some clinical considerations influencing radium dosage. M. LINZ and J. R. FRID. *Am J Roentgenol*, 1935, 33: 319
- Drosophila eggs in radium dosimetry. C. PACKARD. *Am J Roentgenol*, 1935, 33: 317
- Simultaneous multiple-field irradiation with a 4.5 gm radium pack. M. C. FRISCHARD and H. L. GOLTZ. *Radiology*, 1935, 24: 315

Miscellaneous

- The value of physiotherapy to the surgeon R J BERAN *Med Rec New York* 1935 141 3
- Methods of producing artificial hyperthermia F W BIRNOR & L. FRYMAN and S L WARRER *J Am M Ass* 1935 104 920
- Biological and therapeutic values of hertzian waves CASTALDI *Rassegna internaz di clin terap* 1935 16 64
- Studies of the deep warming action of short waves in man F SCHULTZE KNORRHOFF and W RECH *Arch f Gynaek* 1934 157 468
- Indications for and results of short wave therapy in surgery A LOB *Muenchen med Wchnschr* 1934 2 1812 [74]

- The results of short wave therapy in practice E RAN 1914 *Berlin Radianta Verl*
- The role of radiotherapy in the problem of malignancy E F SNEYLEY *Canadian M Ass J* 1935 32 25 [74]
- Factors influencing the determination of radioactivity of cancers of the oral cavity and upper respiratory tracts A P STOUT *Am J Roentgenol* 1935 33 327
- The histologic structure of carcinoma of the cervix uteri and its relation to radiosensitivity C C NORRIS *Am J Roentgenol* 1935 33 332
- Irradiation treatment of superficial malignancies H D KERR *J Iowa State M Soc* 1935 25 12
- The biological effectiveness of alpha particles as a function of ion concentration produced in their paths R F ZIRKLE *Am J Cancer* 1935 23 554

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

- Permanent flexion of both thumbs of an infant CHURILAO and DEROLLOV *Bull et mem Soc nat de chir* 1935 61 283
- Anemia following operations on the stomach J DE VICHEN *Norsk Ark f Lægevidensk* 1934 95 505
- Physical constitution and disease II Absence of correlation between the anatomical constitution and the predisposition to diabetes mellitus, cholecystitis and peptic ulcer J FEIGENBAUM and D HOWAR *Arch Int Med* 1935 55 443
- Pathological conditions induced by estrogens, compounds in the coagulating gland and prostate of the mouse H BERGSON *Am J Cancer* 1935 23 400
- Epilepsy of ovarian origin and its treatment J C LONGARDO *Rev mexicana de cirug ginec y cancer* 1935 1 96
- Drug hypersensitivity as a cause of acute primary granulocytopenia T I SQUIER and F W MAGISON *Wisconsin M J* 1935 31 145
- Agranulocytosis angina F T KANOV *Lancet* 1935 229 600
- Lympho-granuloma inguinale with rectal manifestations in a child J FURZAK and B A KORNBLITH *Am J Dis Child* 1935 49 723
- Agranulocytosis treated with pentnucleotide C S SMITH *Lancet* 1935 228 602
- The surgical importance of angioneurotic edema T MITSCHNUSCHER *Orvosképek* 1934 24 33 [75]
- Acute gangrene of the hand following the injection of transpulmin J CLEFMANOV and F NIKLIV *Kozhl Chir a Gynaek Chir* 1934 13 176
- Caulifying hemangio endotheloma A N COLLINS and C I BELOPEZ *Minnesota Med* 1935 28 157
- Cranial and cervical chordomas: a clinical and histological study A W LUDOV J W KERNOV and H W WOLTMAN *Arch Neurol & Psychiat* 1935 33 247 [75]
- On the origin of sarcomas in mice whether from single cells or many cells J C MOTTRAM *J Path & Bacteriol* 1935 40 407
- Mistaken diagnosis of cancer H MERRILL *J Med Cincinnati* 1935 16 44
- Cancer J LIMPPOSE *Canadian M Ass J* 1935 32 233 [76]
- Cancer The pathological aspect W J DEADMAN *Canadian M Ass J* 1935 32 233
- Carcinoid and carcinoma E EYERTSE *Freglen d Path* 1934 20 30 [76]

- Early cutaneous carcinoma R L SUTSON JR *J Am M Ass* 1935 104 435 [77]
- The importance of a special general predisposition to the development of cancer and the possibilities of combating it B FLICHER WAGELS *Strahlentherapie* 1934 50 5 [78]
- On a peculiar vascular transportation and generalization of carcinoma without local metastasis H OFRIEL *J Path & Bacteriol* 1935 40 323 [78]
- Some results of modern clinical cancer research J EWING *J Med Cincinnati* 1935 16 15
- Results of the spread of information on cancer A clinical contribution to the cancer problem and cancer propaganda B FARTZKY *Deutsche Ztschr f Chir* 1934 243 560 [79]
- The effect of various goiter producing diets on the growth of carcinoma sarcoma and melanoma in animals K SUGIURA and S R BENEDICT *Am J Cancer* 1935 23 541
- The prevention diagnosis and treatment of cancer S J WILSON *Texas State J M* 1935 30 606
- Some of the newer methods for the diagnosis and treatment of cancer J C CORRY *West Virginia M J* 1935 31 97
- The choice of therapeutic agents in the treatment of cancer F FRIEHL *Texas State J M* 1935 30 638
- The attitude of the modern surgeon toward the cancer problem F F ALLEN *J Med Cincinnati* 1935 16 8
- A cancer survey of Missouri E I RECTOR *J Missouri State M Ass* 1935 32 105
- The responsibility for increasing cancer mortality G G C WILLIAMS *Illinois M J* 1935 67 255
- General Bacterial Protozoan and Parasitic Infections
- Staphylococcus toxins and antitoxins A T CLAYTON and M F STEVENS *J Path & Bacteriol* 1935 40 201
- Ductless Glands
- Laboratory aids in the diagnosis of endocrine disorders I APPERMAN *Med Rec New York* 1935 141 233
- The thyrotropic hormone of the anterior pituitary J B COLLIP and E M ANDERSON *J Am M Ass* 1935 104 965
- The posterior hypophysis F M K CENLIV *J Am M Ass* 1935 104 738
- Pituitary basophilism with the report of a case F R TEUFENDOR *West J Surg Obst & Gynec* 1935 43 127

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVEL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Index of Abstracts of Current Literature.. . . .	iii-vi
II. Authors of Articles Abstracted	viii
III. Collective Review	105-118
IV. Abstracts of Current Literature	119-184
V. Bibliography of Current Literature	185-208

CONTENTS—AUGUST, 1935

COLLECTIVE REVIEW

- POSTOPERATIVE PULMONARY COMPLICATIONS. A REVIEW OF THE LITERATURE OF 1932-1933. *Mary E Mathes, M D, and Emile Holman, M D, San Francisco* . . . 105

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

- Head**
 CARDILLO, F Secondary Neoplasms of the Vault of the Cranium from the Roentgenological Point of View . . 119
 FODOR, G I Odontogenous Osteomyelitis of the Lower Jaw 119
 MCGREGOR, L A Report of Eleven Instances of Adamantinoma, with a Review of the Malignant Cases in the Literature 120
Eye
 PLUMMER, W A, and WILDER, R M The Etiology of Exophthalmos Constitutional Factors, with Particular Reference to Exophthalmic Goiter 120
 KIRWAN, E W O'G . Orbital Teratoma 121
 BIELSCHOWSKY, A Lectures on Motor Anomalies of the Eyes III Paralysis of the Conjugate Movements of the Eyes 121
 MARSHALL, C R Entoptic Phenomena Associated with the Retina 123
 ARRUGA, H The Present Status of the Treatment of Detachment of the Retina 123
 MACDONALD, A E, and MCKENZIE, K G Sympathectomy for Retinitis Pigmentosa 123
Ear
 THORELL, I The Treatment of Malignant Tumors of the Middle Ear at Radiumhemmet, Stockholm 124
Neck
 DEQUERVAIN, F The Diagnosis and Treatment of Malignant Struma 124
 MULVIHILL, D A A Contribution on Malignant Tumors of the Thyroid 124
 STEWART-HARRISON, R, and SARASIN, R Malignant Diseases of the Larynx and Pharynx 126
 RUPILIUS, K A Contribution on the Common Genesis of Congenital Paralysis on the Diaphragm and Torticollis 129
 KUTSCHERENKO, P A, and MAISLISCH, R M Anatomical Insufficiency of the Parathyroid Glands and Symptoms of Spasmophilia in Cases of Blastoma 184

SURGERY OF THE NERVOUS SYSTEM

- Brain and Its Coverings; Cranial Nerves**
 MARINESCO, G, and GOLDSTEIN, M The Cells of a Metastatic Adeno-Epithelioma of the Dura Mater The Part Played by the Microglia 127

Spinal Cord and Its Coverings

- BUTLER, R W Paraplegia in Pott's Disease, with Special Reference to the Pathology and Etiology 127
Sympathetic Nerves
 MACDONALD, A E, and MCKENZIE, K G Sympathectomy for Retinitis Pigmentosa . . 123
 KNIGHT, G C Sympathectomy in the Treatment of Achalasia of the Cardia . 128

Miscellaneous

- RUPILIUS, K A Contribution on the Common Genesis of Congenital Paralysis of the Diaphragm and Torticollis . 129

SURGERY OF THE THORAX

Chest Wall and Breast

- CHEATLE, SIR L Schimmelbusch's Disease of the Breast and Dr A Lacassagne's Experiments on Mice 130
 MUIR, SIR R The Pathogenesis of Paget's Disease of the Nipple and Associated Lesions 130

Trachea, Lungs, and Pleura

- ZIEGELMAN, E I Tracheal Diverticulum Observations on a Cadaver and Results of Histological Study 131
 ADAMS, W E, HRDINA, L, and DOSTAL, L E Vascular Changes in Experimental Atelectasis Morphological, Physiological, and Biochemical 131
 STOICHITZA, N N, and CRETZU, V The Lobar Form of Pulmonary Syphilis 131
 PRUVOST, MEYER, and LIVIEPATOS The Treatment of Giant Cavities by Pneumothorax 132
 VAUCHER, E, KABKAER, J, and ZENGUINOFF, G Considerations on Pleural Eosinophilia in Artificial Pneumothorax 132
 FRUCHAUD, H, and THALHEIMER, M The Technique of Phrenicectomy with Exposure of the Accessory Phrenic and Subclavian Nerves 132
 VALLEBONA, A The Roentgenological Picture of Bronchiectasis 133
 BOHRER, J V Lobectomy for Bronchiectasis in Children 133
 DUBROW, J L Congenital Cyst of the Lung 133
 NICOTRA, A Anatomicoroentgenological Characteristics of Congenital Cystic Lung . 133

- ARLHISBOLD E A Consideration of the Dangers of Lobectomy
WANGENSTEIN O H Observations on the Treatment of Empyema with Special Reference to Drainage and Expansion of the Lung

Heart and Pericardium

- SCHUB M Problems of Adhesive Pericarditis

Miscellaneous

- RUSSONY T Hirtus Hernias

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- SALTO M J A Contribution to the Study of Two Rare Varieties of Hernia—Para Inguinal and Peri Inguinal Hernia

Gastro-Intestinal Tract

- FRIGHT G C Sympathectomy in the Treatment of Achalasia of the Cardia
RIVERS A B and DRY T J The Differentiation of Benign and Malignant Gastric Ulcers The Unreliability of Diagnostic Criteria
BLOOMFIELD A I Early Cancerous Changes in Peptic Ulcer
SWORN B R and MENTON J Adenoma of the Duodenum
RAIFORD F S Carcinomata of the Large Bowel I The Colon II The Rectum
HAGARD W D Appendicitis
SCIFFERT I A Review of Statistics on Appendicitis for Two Decades
SALVI A A The Surgical Treatment of Rectal Prolapse

- CORLON WATSON SIR C and DUND H Observations on Fistula in Relation to the Peritoneal Intramuscular Clands With Reports on Three Cases

Liver, Gall Bladder, Pancreas, and Spleen

- BROCHNER MORTELSEN K The Bilirubin Capacity Test as a Test of Liver Function
ZILCHERT F Studies of the Secretion of Bile in Cases of Drainage of the Biliary Tracts
STEFANIN H BEPGERET A ALBOT C and LE LOEBRY J Reticulo-sarcoma of the Spleen
STEWART W H and ILLI A H F The Advantages of Intensified Oral Cholecystography

GYNECOLOGY

Uterus

- LARRY K and VILLAR J The Therapeutic Indications and Technique in Chronic Cervicitis
MAYNOR LAURENCE and JEFFREY Infarction and Cancer of the Uterus
CLARKSON S Myoma of the Uterus Before the Twentieth Year of Age
NILES A F The Prognosis and Treatment of Adenocarcinoma of the Cervix

- RICHARDSON E H Hysterectomy for Carcinoma of the Corpus Uteri

Adnexal and Peritubal Conditions

- GARDNER S S Actinomycosis of the Fallopian Tubes with the Report of a Case
ZONDER A Gonadotropic Stimulation Treatment
MAYNEACE F The Fate of the Isophenolized Ovary Anatomical Studies and Functional Tests at Various Intervals After Isophenolization
DAVIS G and BABES A Liposarcoma with Metastases The Abdominal Liposarcoma with Ovarian Metastases

Miscellaneous

- CRIST S H and SPELMAN F The Therapeutic Value of Antuitrin S in Menometrorrhagia
KRAUL L and SUTTON S The Influence of Hormones on the Function of the Uterine Musculature
DAMM P N Investigations Regarding the Changes Taking Place in the Mucosa of the Uterus Following Overdosage with Follicular Hormone
HAMBLEN E C Results of the Preoperative Administration of an Extract of Pregnancy Urine A Study of the Ovaries and of the Endometrium Following Such Administrations
DOAN R C and STURSON W M The Elliott Treatment of Pelvic Inflammatory Disease
KUTNER H L Changes Occurring in the Bases of Uterine and Ovarian Tumors
MOLLER CHRISTENSEN F On the Therapeutic Uses of Sex Hormone Preparations

OBSTETRICS

Pregnancy and Its Complications

- BOLAFFI P Hydriduria in Obstetrics and Gynecology Its Use for the Early Diagnosis of Pregnancy
MOLINEN O L Short Pregnancy
MEACHYER W C When to Operate in Ruptured Ectopic Gestation
DIELMANN W J Ration for Induction in the Treatment of Pregnancy
LEVY SOLAL I The Edemas of Pregnancy A Physiological Study
CEISSAC L A Clinical Study of the Edemas of Pregnancy
BERLITZ F A Contribution to the Knowledge of the Mielitis of Pregnancy
CHARANIER H MICHON L LOBO O'NEILL C and LESTER E Postabortive Anemia with Spastic Phenomena Decapitation Chlorine Replacement Recovery
ROBINSON A L DAYTON M M and JEFFREY T N A The Induction of Abortifacient Labor by Means of Estrin
Labor and Its Complications
HILCO F Recording the Number of Pains in Spontaneous Delivery

- WACHENFELDT, S VON Studies of the Delivery of Multiparas 154
- CROFT, C R Contraction Ring Treatment by Amyl Nitrite, with Observations on the Pharmacological Action of Nitrite 155
- Puerperium and Its Complications**
- JONES, J L, and BARLOW, O W A Clinical Comparison of Various Ergot Preparations on the Postpartum Human Uterus 155

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- DIECKMANN, W J Renal Function in the Toxemias of Pregnancy 151
- CHABANIER, H, MICHON, L, LOBO-ONELL, C, and LÉLU, E Postabortive Anuria with Spastic Phenomena Decapsulation, Chlorine Replacement, Recovery 153
- EISENDRATH, D N The Clinical Importance of Congenital Hypoplasia 157
- COUNSELLER, V S, and PRIESTLEY, J T The Present Conception of Renal Lithiasis 157
- STEVENS, A R Bilateral Urinary Calculi, with Special Reference to Therapeutic Problems 159
- QUINBY, W C, and BRIGHT, E F Solitary Renal Cysts, Their Symptoms When Situated at the Upper Pole of the Right Kidney 159
- OCKERBIAD, N F, CARLSON, H E, and SIMON, J F The Effect of Morphine upon the Human Ureter 159
- RIZZI, R Ureterectasia Without Mechanical Obstruction Achalasia of the Ureteral Orifices 160
- KOTTMEIER, H L Changes Occurring in the Bones in Cases of Uterine and Ovarian Tumors 149
- BERUTTI, E A Contribution to the Knowledge of the Myelitis of Pregnancy 152
- LIVINGSTON, S K Demineralization of the Skeleton 165
- GIULIANI, G M The Influence of Vascularization on the Formation of Bone in Connective Tissue and the Formation of Cartilage 166
- BENNETT, G E, and JONES, H A Tuberculosis of a Diaphysis Report of a Case 166
- TELLING, W H M The Clinical Importance of Fibrositis in General Practice 166
- MCMASTER, P E Cartilaginous Inclusions in Rachitic Bones and Their Possible Relationship to Cartilaginous Tumors 166
- JANAS, A The Method of Cure of Tuberculous Spondylitis in the Adult 167
- FERGUSON, A B, and HOWORTH, M B Coxa Magna A Condition of the Hip Related to Coxa Plana 167
- LAPASSET and CAHUZAC Congenital Absence of the Fibula 168
- GALLAVRESI, L Roentgenological Study of the Normal and Pathological Satellite Shadows of the Ribs 170
- Surgery of the Bones, Joints, Muscles, Tendons, Etc.**
- HOHMANN, G The Treatment of Traumatic Flail Knee 168
- GRIGORESEN, I, and VASILIU, A The Surgical Treatment of Benign Tumors of the Knee Joint by Juvara's Operation 169

Fractures and Dislocations

- HEY GROVES, E W Organization of the Treatment of Fractures 169
- RUHL, J Follow-Up Investigations Regarding the Injurious Effect on Bones of Buried Large Metal Bodies Used in the Treatment of Fractures 169
- HYAL, J H Fracture of the External Condyle of the Humerus in Children 170
- LEVEUF, J, and GODARD, H Open Reduction of Supracondylar Fractures of the Humerus in Children 170
- HEIN, B J Fractures of the Forearm An Analysis of 415 Cases, with Special Reference to Disabilities 170
- AGRIFFOLIO, M Isolated Fracture of the Odontoid Process of the Axis 171
- JAHS, S A Injuries Involving the Ilium A New Treatment 171
- MACAUSLAND, A R Separation of the Capital Femoral Epiphysis 172
- COHN, H R The Treatment of Fractures of the Os Calcis 172
- Bladder, Urethra, and Penis**
- MUSCHAT, M The Value of Cystometry 160
- FRUCHAUD, H The Use of Irradiation in Cancers of the Bladder and the Prostate 160
- HYMAN, A Suprapubic Cystostomy with Excision and Irradiation in the Treatment of Malignant Tumors of the Bladder 161
- Genital Organs**
- RICH, A R On the Frequency of Occurrence of Occult Carcinoma of the Prostate 162
- HYMAN, F Radical Operation for Teratoma Testis 162
- Miscellaneous**
- BARCIAY, I B, and BAIRD, J B Excretion Urography 163
- DEJARDINS, A U, STUHLER, L G, and POPP, W C Fever Therapy for Gonococcal Infections 163
- KUENZLBERGER, E The Treatment of Lymphogranulomatosis Inguinalis—Climatic Buboec 164

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc

- BUTLER, R W Paraplegia in Pott's Disease, with Special Reference to the Pathology and Etiology 127

SURGERY OF BLOOD AND LYMPH SYSTEMS

Blood Vessels

- ADAMS, W E, HERDINA, L, and DOSTAL, L F Vascular Changes in Experimental Atelectasis Morphological, Physiological and Biochemical 131

- DE TAKATS G. *Peripheral Vascular Disease* 173
 FRIFR P. and LÉVI A. *Some Aneurismographs with Thorotrast* 174
 NALLÉAL and CONTIADÈS. *Indications for Arteriography in the Study of Arteritis* 174
 PAZZACCI R. *Arterial Embolectomy* 174

Blood, Transfusion

- MARRIOTT H. L. and KERWICK A. *Continuous Drop Blood Transfusion* 174

Lymph Glands and Lymphatic Vessels

- DAVIES G. F. S. *Hodgkin's Disease* 175
 RITCHIE H. *Lymphadenoma* 175

SURGICAL TECHNIQUE

Operative Surgery and Technique, Postoperative Treatment

- GILLIES Sir H. D. and McINDOE A. H. *The Role of Plastic Surgery in Burns Due to Roentgen Rays and Radium* 176
 STEWART WALLACE A. M. *Progressive Postoperative Gangrene of the Skin* 176
 JACOBOWITZ J. and MUKESAN J. *The Causes of Postoperative Deaths in the Eleven Years from 1922 to 1932 in the Surgical Clinic at Klausen burg* 177

PHYSICO-CHEMICAL METHODS IN SURGERY

Roentgenology

- CARDILLO F. *Secondary Neoplasms of the Vault of the Cranium from the Roentgenological Point of View* 179
 VALLERONA A. *The Roentgenological Picture of Bronchiectasis* 179
 NICOTRA A. *Anatomico-roentgenological Characteristics of Congenital Cystic Lung* 183
 BARCLAY I. B. and BAIRD J. B. *Excretion Urography* 183
 FRIER P. and LÉVI A. *Some Aneurismographs with Thorotrast* 174
 NALLÉAL and CONTIADÈS. *Indications for Arteriography in the Study of Arteritis* 174
 GILLIES Sir H. D. and McINDOE A. H. *The Role of Plastic Surgery in Burns Due to Roentgen Rays and Radium* 176
 ROZZETTI C. *The Practical Realization of Strabismic* 179

- STEWART W. H. and ILLIK H. E. *The Advantages of Intensified Oral Cholecystography* 173
 GALLAVRESI L. *Roentgenological Study of the Normal and Pathological Satellite Sinus of the Lungs* 179

Radium

- THORELL I. *The Treatment of Malignant Tumors of the Middle Ear at Radiumhemmet, Stockholm* 174
 FRUCHARD, H. *The Use of Irradiation in Cancers of the Bladder and the Prostate* 180
 HYMAN A. *Suprapubic Cystostomy with Excision and Irradiation in the Treatment of Malignant Tumors of the Bladder* 182
 NIKOLAYEV D. *Types of Malignant Disease Treated by Radium at the Cancer Relief and Research Institute in Manitoba* 180

Miscellaneous

- JORGES J. M. and DIETSEN J. P. *Heliotherapy* 180

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

- COON E. G. F. FOISER P. S. ROBERTSON H. F. and AUBREY O. E. *Traumatic and Hemorrhagic Shock: An Experimental and Clinical Study* 181
 ORBACH E. *The Pathogenesis of So-Called Traumatic Edema—Neurotic Acute Edema* 181
 ANSTROM H. F. *So-Called Mixed Tumors of the Mucous and Salivary Gland Type Occurring in the Skin and Subcutis and Their Treatment* 182
 HERTZ A. *Where Are We Steering in the Treatment of Cancer? Reflection on the Most Successful Methods of Treatment* 182
 PAVLOT J. LEVAT M. and GUICHARD A. *Eosinophilia of the Blood in Cases of Malignant Tumor: A Case of Perirenal Reticulosarcoma with Eosinophilia of the Blood and of the Tumor* 183
 DANIEL G. and BARBÈS A. *Liposarcoma with Metastases: The Abdominal Liposarcoma with Ovarian Metastases* 183

Ductless Glands

- KUTCHERENKO P. A. and MAISLICHEN R. M. *Adrenal Insufficiency of the Parathyroid Glands and Symptoms of Spasmophilia in Cases of Plasmoma* 184

BIBLIOGRAPHY

Surgery of the Head and Neck

Head.	185
Eye	185
Ear	186
Nose and Sinuses	186
Mouth	186
Pharynx	186
Neck	186

Surgery of the Nervous System

Brain and Its Coverings, Cranial Nerves	187
Spinal Cord and Its Coverings	187
Peripheral Nerves	188
Sympathetic Nerves	188
Miscellaneous	188

Surgery of the Thorax

Chest Wall and Breast	188
Trachea, Lungs, and Pleura	188
Heart and Pericardium	189
Esophagus and Mediastinum	190
Miscellaneous	190

Surgery of the Abdomen

Abdominal Wall and Peritoneum	190
Gastro-Intestinal Tract	190
Liver, Gall Bladder, Pancreas, and Spleen	192
Miscellaneous	193

Gynecology

Uterus	193
Adnexal and Peritoneal Conditions	194
External Genitalia	194
Miscellaneous	194

Obstetrics

Pregnancy and Its Complications	195
Labor and Its Complications	197
Puerperium and Its Complications	197
Newborn	198
Miscellaneous	198

Genito-Urinary Surgery

Adrenal, Kidney, and Ureter	198
Bladder, Urethra, and Penis	199
Genital Organs	199
Miscellaneous	200

Surgery of the Bones, Joints, Muscles, Tendons

Conditions of the Bones, Joints, Muscles, Tendons, Etc	200
Surgery of the Bones, Joints, Muscles, Tendons, Etc	202
Fractures and Dislocations	203
Orthopedics in General	204

Surgery of the Blood and Lymph Systems

Blood Vessels	204
Blood, Transfusion	205
Lymph Glands and Lymphatic Vessels	205

Surgical Technique

Operative Surgery and Technique; Postoperative Treatment	205
Antiseptic Surgery, Treatment of Wounds and Infections	205
Anesthesia	205

Physicochemical Methods in Surgery

Röntgenology	206
Radium	206
Miscellaneous	206

Miscellaneous

Clinical Entities—General Physiological Conditions	207
General Bacterial, Protozoan, and Parasitic Infections	207
Ductless Glands	208
Surgical Pathology and Diagnosis	208
Experimental Surgery	208
Hospitals, Medical Education and History	208

AUTHORS OF ARTICLES ABSTRACTED

- Adams W I 131
 Agnifoglio M 171
 Ahlborn H F 18
 Albot C 143
 Archiball E 134
 Arruga H 123
 Aufranc O E 181
 Babès A 183
 Baird J B 163
 Barclay I B 163
 Barlow O W 155
 Birsony T 135
 Bennett G E 166
 Bergeret A 143
 Berutti E 15
 Belschowsky A 121
 Bloomfield A J 13
 Bohrer J V 133
 Bolash R 120
 Boetti C 179
 Bright F I 159
 Broechnier Merlen K 141
 Butler R W 127
 Cahuzac 108
 Cardillo F 119
 Carl on H F 159
 Chabanier H 153
 Cheate Sir I 130
 Clason S 145
 Conn H K 172
 Contiades 174
 Coonse C K 181
 Counseller V S 157
 Cretzu V 131
 Croft C K 153
 Damm P N 148
 Daniel G 183
 Datnow M M 153
 Davies G F S 175
 De Quervain F 14
 Desigret A U 163
 De Takats C 171
 Dieckmann W J 151
 Dietsch J R 140
 Doan R C 148
 Dodd H 141
 Dostal L F 131
 Dry T J 137
 Dabrow J L 143
 Emsendath D N 15
 Ferguson A B 161
 Fodor C I 119
 Fosse P S 181
 Frieß P 174
 Fruhauf H 13 160
 Gallavresi L 179
 Gardiner S S 145
 Gerl S H 147
 Gilhes Sir H D 176
 Gialani G M 166
 Godard H 10
 Goldwein M 127
 Gordon Watson Sir C 141
 Grigoren I 169
 Guessas C 151
 Guichard A 183
 Hagard, W D 140
 Hamblen F C 148
 Hein B J 170
 Hfeld C 151
 Hey Croves F W 169
 Heyl J H 170
 Hunnan I 161
 Huntze A 181
 Hohmann G 168
 Holman I 103
 Howorth M B 167
 Hrdina L 137
 Hyman A 161
 Hlil H F 119
 Jacobovici J 1
 Jabs S A 11
 Janas A 167
 Jeffcoat T N 151
 Jones H A 160
 Jones J F 155
 Jorge J M 180
 Kabkaer J 141
 Kekwick A 174
 Kfirwan E W O G 121
 Knight G C 123
 Kottmeier H I 149
 Kraul L 147
 Kur enberger F 164
 Kutscherenko P A 194
 Labry R 144
 Lamy 144
 Lapalet 103
 Lehardy J 143
 Lelu E 153
 Leroy 144
 Leveuf J 170
 Levrat M 193
 Lévy A 174
 Lévy Solal L 151
 Liveratos 111
 Livingston S F 163
 Lobo Onell C 153
 MacAusland A R 172
 MacDonald A F 143
 Maibach R M 184
 Mannes G 117
 Marriott H L 144
 Marshall C R 13
 Matthes M E 109
 Mattea F 146
 McGregor L 10
 McIndoe A H 16
 McKenzie K I 123
 McMaster P F 166
 Meagher W C 11
 Menton J 138
 Meyer 132
 Michon L 153
 Molinengo L 159
 Moller Christensen F 143
 Mondor 144
 Mour Sir R 130
 Mulvihill D A 174
 Muresan J 177
 Muschat M 160
 Nauil au 174
 Nicholson D 180
 Nitrota A 133
 Nissim F 145
 Orkerblad N F 151
 Orbach F 181
 Pavot J 183
 Pizzaghi P 174
 Plummer W A 120
 Popp W C 109
 Priestley J T 157
 Pruvost 131
 Quimby W C 159
 Raudorf T S 139
 Rich A R 167
 Richardson L H 145
 Ritchie H 175
 Rivers A B 137
 Rizzi R 160
 Robertson H F 171
 Robinson A L 153
 Ruhl J 169
 Ruphus K 129
 Saito M J 137
 Sakuma A A 140
 Sarasin R 126
 Schir M 135
 Seif R F 140
 Simon J F 159
 Simon S 147
 Simpson W M 148
 Spielman F 147
 Stevens H 143
 Stevens A K 159
 Stewart W H 170
 Stewart Harrison R 16
 Stewart Wallace A M 16
 Stuchatz N N 131
 Stuhler L G 163
 Sworn H R 138
 Telling W H M 166
 Thaheimer M 131
 Thorell I 121
 Vallebona A 133
 Vasiliu A 169
 Vaucher F 131
 Villar J 143
 Wachenfeldt S von 154
 Wangenstein O H 135
 Wild R M 120
 Zenginnoff G 157
 Ziepelman E F 131
 Zilocchi F 142
 Zandek B 140

INTERNATIONAL ABSTRACT OF SURGERY

AUGUST, 1935

COLLECTIVE REVIEW

POSTOPERATIVE PULMONARY COMPLICATIONS, A REVIEW OF THE LITERATURE OF 1932-1933

MARY E MATHES, M D, AND EMILE HOLMAN, M D, F A C S, SAN FRANCISCO, CALIFORNIA

IN the medical literature of 1932-1933 postoperative pulmonary complications occupied an important place in both American and European journals and a multitude of comprehensive studies on the subject were presented. Emphasis was placed, naturally, upon the prevention of such complications, their early recognition, and their treatment.

Some years ago practically every chest condition that followed an operation, whether within hours or days, was promptly labeled "ether pneumonia" and considered an unfortunate but unavoidable sequel of general anesthesia. Quite a number of the patients developing postoperative chest complications succumbed and "ether pneumonia" became one of the most dreaded aftermaths of operation.

In recent years, as these conditions have been studied more carefully, it has become apparent that they are not due to the anesthesia *per se*, since patients operated upon under general, rectal, intravenous, regional, or local anesthesia all share the risk of developing a pulmonary complication. Consequently, the expression "ether pneumonia" has become obsolete and the various conditions are now grouped under the terms "atelectasis," "pneumonia," "bronchitis," "pulmonary embolism," "pulmonary infarction," "pulmonary abscess," and "pulmonary gangrene."

King (36), in reviewing a series of surgical cases which he studied at the Massachusetts General Hospital over a period of two years, reports that postoperative pneumonia, pneumonitis, or collapse occurred in 60 per cent of the total number,

14 per cent of the cases in which a laparotomy or herniotomy was done, and 72 per cent of those in which a thyroidectomy was performed.

The incidence of such complications varies greatly. Trueta Raspall (64), speaking of upper abdominal operations, concludes that of patients with a normal vital capacity, 2 per cent have pulmonary complications following operation, while of those with a lowered vital capacity, 72 per cent develop such complications.

ATELECTASIS

A historical review of atelectasis has been included in most of the papers dealing with this subject and the development is sufficiently interesting and instructive to warrant a brief summary. Atelectasis was first described by Schenk in 1811 as it appeared in babies who died shortly after birth. In 1826, Laennec described a similar condition found at postmortem examination of adults, which he explained as a manifestation of asthma. The name "atelectasis" was coined by Jorg in 1823 from two Greek words, *ateles*, meaning incomplete or imperfect, and *ektasis*, meaning extension or expansion (Bergh 7). In 1844 Legendre and Bailly were the first to describe atelectasis clearly and to separate it from the inflammatory consolidations. They considered the collapse due to the retention of bronchial secretions and imperfect respiratory expansion. Traube came to the same conclusion, and Mendelssohn showed experimentally that bronchial occlusion by foreign bodies causes atelectasis. Fuchs, in 1849, was the first to suggest that the air distal to

the obstruction is absorbed into the blood stream. Earlier investigators observed that collapse often followed occlusion of bronchi by external pressure such as occurs in cases of tumor, enlarged lymph nodes and aneurism. Girdner, in 1850, described a case of collapse caused by a 'valve of mucus' permitting expiration but not inspiration. Barthels in the period from 1861 to 1867, studied bronchial occlusion produced by the membranes of diphtheria. In 1878 Lichthem produced collapse of the lung after the introduction of laminaria plugs into the bronchus and studied the rapidity of absorption of the different gases of which the air is composed. He stated that if the pulmonary vessels are ligated pulmonary collapse does not follow.

The first description of atelectasis according to the modern conception of a clinical entity appeared in the classical works of Pasteur beginning in 1890. In Pasteur's opinion the collapse was due chiefly to paralysis of the diaphragm and respiratory muscles. In 1914 Elliot and Dingley suggested that it was due to occlusion of a bronchus by retained secretions. In 1918, Sir Joseph Rose Bradford advanced the theory that collapse is a result of immobility and retraction of the chest wall and diaphragm instead of intrabronchial causes. Brisco (1920) believed it was due to pulmonary subventilation following the supine position and an abdominal operation. During the war he found that atelectasis frequently followed gunshot wounds of the chest either penetrating or non-penetrating but observed no cases following injuries of the upper extremities or head.

In 1925 Scott concluded that atelectasis was due either to a reflex constriction of bronchioles such as occurs in vasomotor bronchial spasm or to an edema of the bronchial mucous membrane which obstructed the air passages.

INCIDENCE. Figures as to the frequency of atelectasis as a postoperative complication vary greatly. Some investigators consider only massive atelectasis while others include also minor degrees of atelectasis and hypoventilation. Cases are being more readily recognized since the condition has been more thoroughly studied and the diagnosis has been made more certain by physical and roentgenographic examinations. Coincidentally however there has been a decrease in the occurrence of collapse due to vigorous efforts to prevent it and a clearer understanding of the etiological factors involved. Scott and Cutler report collapse in 0.6 per cent of postoperative cases in which carbon dioxide inhalation was not used and in 0.2 per cent of cases in which carbon dioxide was administered postoperatively.

Pasteur found collapse in 0.8 per cent of cases in which an abdominal operation was performed.

Sutton (61) places the general postoperative incidence of atelectasis at from 0.8 to 3.3 per cent and the incidence of pulmonary complications in general at from 2.1 to 4.4 per cent. He observes that some authorities believe that practically all pulmonary complications have small areas of atelectasis as a basic lesion.

Schringer gives the incidence of postoperative atelectasis as 1.3 per cent. Vandell Henderson states that atelectasis of some degree is present in from 10 to 20 per cent of cases in which operation has been performed while Muller and Overholt and Pendergrass have demonstrated by means of skiagrams that some degree of hypoventilation occurs after nearly all operations of certain types. Mastics, Spittler and McNamee found 10 per cent of all pulmonary complications to be of atelectatic origin.

While opinions as to the etiology of atelectasis are still diverse practically all writers agree that the condition is most frequently a result of bronchial occlusion. It has been repeatedly shown experimentally that obstruction of a main bronchus is followed by rapid absorption of the air in the distal part of the lung with resulting atelectasis. Bronchial contraction or spasm such as occurs in asthmatics must also be considered (Scott and Schringer). The etiological factors can be conveniently grouped as pre-operative, operative and postoperative.

ETIOLOGY. *Pre-operative factors.* The presence of infections of the upper respiratory tract, bronchitis or chronic pulmonary disease of any type increases the hazard of subsequent collapse (Lubin 42, Larson and McLaughlin 21). Debilitated patients, senile patients and patients confined to bed for long periods pre-operatively are more liable to develop collapse than others (Bergh 7). Lubin points out that even in an anesthetized patient buccal and nasal secretions can be found in the major bronchi after a period of several hours. This was demonstrated by the studies of William B. Faulkner. Material in the bronchi resulting from chronic intrapulmonary suppurations gravitates with the position of the patient according to the principles of internal drainage (Lubin 42, Faulkner and Faulkner 21) and may readily occlude one or more bronchi.

Thin secretions will enter minor bronchi producing patchy atelectasis while thick viscid secretions plug larger bronchi causing the collapse of a complete lobe or more (Lubin 42).

Pre-operative medication is of importance. Morphine tends to diminish the cough reflex and

depress respiration and should not be given in large doses. Atropin decreases the buccal and bronchial secretions, rendering them more viscid and difficult to remove. It tends also to increase intrapleural pressure as does epinephrin (Prinzmetal, Brill, and Leake, 50).

Operative factors Recent careful studies have proved that the type of anesthetic has no important bearing upon the development of atelectasis as the incidence of the condition is found to be practically the same whether the operation is performed under local, regional, rectal, nitrous oxide, or other anesthesia.

The most important factor during operation, regardless of the type of anesthesia, is aspiration. Any substance aspirated into the bronchial tree, whether oromaxillary secretions, blood, regurgitated gastric contents, or a foreign body, gives rise to bronchial occlusion of some degree.

The type of bacteria contained in the oromaxillary or bronchial secretions plays a definite rôle. A pneumococcus is practically always present in the upper respiratory tract and infects the bronchial secretions, increasing their viscosity and enabling them to obstruct either large or small bronchi (Coryllos, 17).

A position of the patient during the operation which allows secretions to gravitate to one side or interferes with the flow of tidal air, increases the risk of atelectasis (Bergh, 7).

The region and type of operation has a direct bearing on the incidence of collapse. Abdominal operations, particularly operations on the stomach and duodenum, are extremely apt to be followed by such a complication (King, 36, Balfour and Gray, 3, Eliason and McLaughlin, 21).

Postoperative factors Hypoventilation results from limitation of the respiratory movements by pain, reflex inhibition independent of pain, tight adhesive strapping or a tight binder, abdominal distention with elevation of the diaphragm, paralysis of the diaphragm, deep narcosis from drugs, trauma to the central nervous system, and occasionally toxicity or debility (Carlson, 13, Prinzmetal, Brill, and Leake, 50, Beecher, 6).

The patient's position in the early postoperative period also plays an important rôle in the production of atelectasis. A decrease in the tidal air flow due to this factor and stagnation of secretions in a dependent bronchus due to leaving the patient in one position for too long a time promote atelectasis. Drugs may also play an important rôle in the production of atelectasis. Morphine, by abolishing the cough reflex, prevents the removal of accumulated secretions, and atropin renders them viscid and difficult to remove. It has been

repeatedly shown experimentally that occlusion of a bronchus plus abolition of the cough reflex and limitation of the respiratory excursions will cause massive atelectasis (Van Allen, 60; Jackson and Jackson, 32; Lee and Tucker).

Symptoms The symptoms accompanying atelectasis are governed by the suddenness of the onset of the bronchial occlusion, the size of the plugged bronchus, the alteration of intrapleural pressure, the disturbance in the position of the mediastinal structures, and the amount and the virulence of the intrabronchial infection (Faulkner and Faulkner, 23). A slowly developing atelectasis without serious infection may cause few symptoms. If highly virulent organisms are present, severe symptoms and general toxemia are apparent. Gradual changes in the intrapleural pressure and vital capacity are tolerated well, but sudden alterations are accompanied by severe symptoms. The latter are: a sudden rise in the temperature, pulse rate, and respirations, pain in the chest, cyanosis, dyspnea, cough, and a mucopurulent sputum. The patient usually prefers to sit up in bed.

Diagnosis The diagnosis of atelectasis can be made readily from the physical signs supplemented by the findings of roentgenoscopic and roentgenographic examinations. As is pointed out by many investigators early diagnosis is most important as it permits prompt treatment which decreases the chance of serious and possibly fatal infection.

Atelectasis varies in its time of onset. It may develop on the operating table, during the first few postoperative hours, or from one to five days after operation (Lubin, 42). Its early appearance is most characteristic and constitutes one of its important diagnostic features.

The typical physical signs are obvious restriction of the respiratory movements on the side of the collapse, dullness over the collapsed area, compensatory emphysema in the normal lung, displacement of the mediastinal structures, including the trachea, toward the area of collapse, alteration in the breath sounds (which may be absent, diminished or accentuated), and râles developing usually late in the course of the disturbance.

Overholt points out that abnormal physical signs may be elicited after practically all operations, especially abdominal operations, and that caution must be exercised in their interpretation. The physical signs in atelectasis frequently vary in the same patient from minute to minute or from hour to hour. When the patient moves or coughs, dislodgment of the plugs of secretion may occur with resulting sudden disappearance of all

signs. If the mucus forming the plug is not expectorated, it may migrate by gravity and occlude a different bronchus, giving rise to atelectasis in another part of the same lung or the other lung. A further accumulation of secretions may plug adjacent bronchi, adding to the extent of the original lesion. In bilateral collapse, shifting of the mediastinum may not occur.

The roentgenological findings in atelectasis (Manges and Farrell, 44; Van Allen, La Field and Ross, 66; Hawk, Shepard and Purkiss, 27; Johnson and Crain, 34) fall into two classes: (a) increased density in the affected lung, and (b) a displacement of the adjacent viscera. The density is of a characteristic homogeneous or ground glass appearance due to complete airlessness (Van Allen, La Field and Ross, 66). If the area of collapse are small and multiple they may still have the same type of density, but it may be overshadowed by normal lung with vessel and bronchial markings. Most other lesions, particularly pneumonia with which atelectasis may be confused, produce a more heterogeneous shadow due to small amounts of residual air.

Collapsed lung consistently occupies less space than normal or inflamed lung in both the inspiratory and the expiratory phase. This is made apparent in the roentgenogram by the visible shift of all movable structures in the chest and chest wall toward the affected lung. The diaphragm is elevated during both phases of respiration, and part or all of the mediastinum is moved toward the collapsed area. If the collapse is present in the upper lobes the trachea is displaced. On the affected side the ribs are drawn close together and somewhat downward, the interspaces being thereby narrowed, while on the opposite side the interspaces are widened and the excursion of the ribs is greater than normal. During respiration the mediastinum has a lateral motion, moving toward the side of the lesion on inspiration and away from it on expiration. Slight scoliosis may be observed.

The differential diagnosis of atelectasis from pneumonia presents the greatest difficulty, especially in cases of bilateral and patchy atelectasis. Coryllos and Birnbaum believe that pneumonia and atelectasis have a common basis. Bowen, in a review of the subject in 1928, estimated that probably 70 per cent of cases of so-called postoperative pneumonia are actually cases of atelectasis.

Early removal of the bronchial obstruction results in prompt return of the roentgen picture to normal. When the collapse is prolonged the retained secretions become infected and even after removal of the occlusion some density may remain.

PREVENTION. By far the most important clinical aspect of atelectasis is prophylaxis. Except in emergency cases all operative procedures should be postponed in the presence of coriza, sinusitis, laryngitis and bronchitis until these conditions have been relieved. Balfour and Gray (3) stress the importance of delaying operation at least a week after apparent recovery from an acute respiratory infection. Atropin, as commonly given before operation, is useful to diminish secretions during operation, but should be used sparingly if at all postoperatively as it tends to thicken secretions and render their drainage more difficult. Jackson and Jackson (32) condemn the use of atropin to lessen secretion either before, during or after operation. Potassium iodide is often given postoperatively to thin secretions and to facilitate their removal (Faulkner and Faulkner, 23; Lubin, 42). General anesthesia should be induced gradually, for when it is induced quickly it causes increased secretion in the mouth and the gasping, straining inspiration leads to aspiration of this material (Faulkner and Faulkner, 23). The safest anesthesia is that in which the reflexes are retained and the patient awakens rapidly after the operation. Local anesthesia accompanied by the administration of rather large amounts of sedative is not of this type.

Balfour and Gray (3) point out the importance, in operations for gastric conditions, of emptying the stomach by tube to prevent the squeezing out of gastric contents which may be aspirated as they roll out of the mouth.

When an operation is to be performed on a patient with known pulmonary suppuration every effort must be made to remove the material collected in the bronchus and pulmonary cavities as completely as possible before the operation. Thorough postural drainage should be carried out for some time, and if the cavities cannot be emptied satisfactorily in this manner they should be emptied by bronchoscopy (Coryllos, 17; Faulkner and Faulkner, 23; Lubin, 42).

The position of the patient on the operating table and in bed after the operation must be such as to prevent the accumulation of secretions and facilitate their drainage. After operation the side not operated upon should be uppermost to prevent exudate from spilling into the bronchi of the good lung. During any operation the Trendelenburg position when it is possible tends to drain material outward and prevent its stagnation in the bronchi. The Fowler position should never be adopted until the patient is fully conscious and able to raise sputum. Frequent postoperative

change of position is of the greatest value in preventing the accumulation of secretions in the bronchial tree (Coryllos, 17).

Since reflexes should be kept intact as far as possible, deep anesthesia and heavy sedation are dangerous. The use of suction by the anesthetist during and at the close of the operation is wise. For thorocoplasty, Coryllos recommends the use of intratracheal insufflation anesthesia combined with bronchial suction, for which he has devised and described special instruments and technique (17).

Rigorous pre operative oral hygiene should be carried out in every surgical case. Dental sepsis and caries should receive attention, and the teeth and gums frequently and efficiently cleaned. An antiseptic, such as Berwick's dye, should be applied to infected gums.

Pre operative vaccination chiefly against streptococci has been practiced by some and regarded as of value in the prevention of chest complications (Boiron, 8). Anti-anaerobic vaccines have also been used.

Constant vigilance is necessary to prevent secretions from remaining in the airways. On the operating table they may be removed by suction. After the patient has been returned to his room he must remove them himself. Consequently he must not be unduly narcotized and must be constantly encouraged to raise secretions by coughing and to expectorate them.

In a few cases in which sufficient material is present to cause distress, such as cyanosis, difficulty in breathing, loud wheezing, and rattling, which does not yield to ordinary measures, bronchoscopy should be resorted to immediately (Jackson and Jackson 32, Faulkner and Faulkner, 23).

Hyperventilation. In the prophylaxis of pulmonary complications great emphasis has usually been placed on hyperventilation. This is most readily obtained by the administration of carbon dioxide which increases both the rate and the depth of respiration (King 37, Elason and McLaughlin, 21). Bergh gives an interesting sketch of the history of the use of carbon dioxide and discusses its present use and value. He ascribes its beneficial effect to deeper and more rapid breathing which maintains the thorax in a state of greater expansion, thus tending to open atelectatic areas. In addition, it causes more violent movement of the tracheobronchial tree and tends to dislodge mucus. However, as its effect is transitory, disappearing when the inhalations of the gas cease, the administrations must be repeated at frequent intervals. Carbon dioxide inhalation at

the close of an operation has the advantage also of hastening the return to consciousness. It is therefore particularly useful after ether anesthesia (Cutting, 18). Prinzmetal, Brill, and Leake (50) have found that intrapleural pressure produces pulmonary subventilation. Factors causing increased intrapleural pressure are anesthesia, abdominal incision, traction on abdominal viscera, pressure on the abdomen or chest, and certain drugs such as ephedrin. Increased intrapleural pressure tends to cause a decrease in vital capacity, favor the accumulation of secretions, and prevent proper lung drainage by facilitating the formation of obstructing mucus plugs in the bronchi. The inhalation of carbon dioxide lowers the intrapleural pressure, hence being invaluable in counteracting the harmful effect of surgery upon the respiratory physiology. Every patient recovering from an operation should be encouraged to take frequent deep breaths of his own volition (Elason and McLaughlin, 21).

Carlson (12) and Beecher (6) have reported extensive studies of inhibition of respiration as a cause of postoperative chest complications. After abdominal operations they found a decrease in the amplitude of the respiratory excursions and a lowering of the vital capacity due to poor ventilation of the lower lobes. Long periods in one position tend to cause congestion and subventilation of the lung. Abdominal distention should be prevented as it elevates the diaphragm and interferes with aeration of the lower lobes of the lung.

In discussing the postoperative use of morphine, Bergh advises the administration of this drug in sufficient amounts to control pain, as pain leads to shallow respiration and unwillingness of the patient to raise secretions. The dosage must be kept below the point at which the cough reflex is abolished.

Van Allen and Lindskog point out that cough is not effective in dislodging a plug unless air is present distal to the plug, and may be definitely harmful. They advise that it be allowed only in moderation, and that excessive cough be controlled by narcotics. Coryllos and Birnbaum believe that cough is the most valuable natural defense of the lungs, and that even though it may not dislodge a bronchial plug it cannot draw it further into the bronchial tree. They contend that viscid sputum does not act like more liquid substances such as lipidol.

TREATMENT. Postoperative collapse can be prevented and is amenable to treatment. When these facts become more generally recognized, pulmonary complications will be appreciably diminished. The chief essential in treatment is

early differentiation of the condition from pneumonia in order that proper treatment may be instituted promptly.

The aims in treatment are to evacuate bronchial secretions, re-establish air flow to the lung, overcome infection, prevent such complications as pneumonia, pulmonary abscess and pulmonary gangrene, and institute prompt relief. These ends may be attained by postural drainage, postural exercise, hyperventilation, the administration of expectorants and inhalations, and bronchoscopy.

Postural drainage makes use of the mechanics of internal drainage as demonstrated by Faulkner and Faulkner (23) and Lubin (4). The patient with a plugged bronchus should be turned in a position which will allow dependent drainage of the involved bronchus according to anatomical relationships. Deep breathing, coughing, or striking the chest while in this position will usually dislodge the plug. It is then important for the patient to expectorate all of the material to prevent migration and re-plugging. Sante introduced the treatment of rolling the patient to dislodge a plug. Hyperventilation by carbon dioxide inhalations has been discussed in the consideration of preventive measures. Expectorants which thin secretions are of aid in dislodging accumulated mucus. If these means fail, bronchoscopy should be resorted to promptly as advocated by Jackson and Jackson (33) and Lubin (42). When performed skillfully, bronchoscopy is not a formidable procedure.

Lubin points out that occasionally the lung fails to clear after the plug has been removed bronchoscopically. This occurs in cases in which the plug has been present for some time, causing the bronchial mucosa to become red and swollen and occluding the lumen by edema and occasionally by granulation tissue. Under such conditions repeated bronchoscopies with intrabronchial medication may be necessary before the edema subsides sufficiently to open the airways.

Spontaneous recovery in atelectasis is frequent but as a rule is favored by dislodgment of the plug by the patient's movements in bed or by coughing.

Pneumothorax is advocated by some (Ellis, Harris, Hablton and Scrimger) as a treatment for atelectasis to relieve the cardiac embarrassment incident to the mediastinal shift, but is condemned by others because it increases the intrapleural pressure and exerts every influence to preserve the collapse of the lung.

PROGNOSIS. The outcome in atelectasis is usually favorable as the condition is not only preventable but also readily amenable to proper early

treatment. When precautionary measures are neglected or adequate treatment is delayed, true pneumonia, pulmonary abscess, pulmonary gangrene or empyema may result. Prolongation of collapse is followed by infection of the retained secretions. If the virulence of the retained organisms is high the exudate becomes more viscid and fibrinous, pneumonia may develop and pneumonia or a suppurative process may follow.

PNEUMONIA

Discussions of postoperative pneumonia overlap those of atelectasis as a clear dividing line between the two conditions has by no means been established. King (37) finds a small group of cases in his series which run the clinical course and present the physical and roentgenological signs of a true bronchopneumonia. Although this group is small, it includes most of the fatal cases. Between the cases of frank pneumonia and those of frank atelectasis lies a large intermediate group which is difficult to classify. The condition in the latter is not pneumonia in the medical sense as it runs a shorter and less toxic course. Whipple has called it "pneumonitis" to denote a pneumonia in which the exudate is caused by a pneumoloccus of low virulence producing small amounts of fibrin and therefore quickly absorbed. According to Coryllos the basic feature is collapse and the sequence of events in the development of postoperative pneumonia is as follows: bronchitis, obstruction of a bronchus by exudate, atelectasis, pneumonia developing in the collapsed area. Many other investigators agree but are inclined to believe that not all pneumonias can be explained in this way.

The development of pneumonia on an atelectatic basis depends upon prolonged duration of the atelectasis and virulence of the organisms in the secretions occluding the bronchus. Small areas of atelectasis may give rise to a pneumonitis accompanied by the accumulation of pus and mucus in the involved bronchus with resulting bronchitis. This causes still further obstruction in the bronchial tree and an extension of the process in an ever widening vicious circle. The aspiration of infected material during or after operation is quite universally conceded to be a factor in the production of postoperative pneumonia. In the presence of coriza, tracheitis, bronchitis, sinusitis, tonsillitis and chronic pulmonary suppurations the secretions are invariably increased by operation and may be contaminated with a multiplicity of organisms because of the presence of infection of the gums and teeth. The aspiration of gastric contents produces similar effects (Balfour, 3).

The pneumococcus of Type IV is a common inhabitant of the oronasal secretions and in the presence of stagnation of secretions this ordinary saprophyte may cause severe bronchitis with a characteristic viscid fibrous pneumonic exudate or, if its virulence is sufficiently increased, a severe generalized cellulitis and massive pneumonia (Hawk, Shepard, and Purkiss, 27, Coryllos, 17).

Infected material already in the lung from a chronic pulmonary suppuration may gravitate during or after anesthesia to other parts of the lung according to the principles of internal drainage and give rise to additional inflammatory processes.

The endobronchial infection set up by the aspiration of infected material may extend into the lung by the lymphatic route. Balfour and Gray (5) point out also the importance of lymphatic drainage from the gastric and duodenal regions to the diaphragmatic and sternal lymphatic trunks, and lay particular emphasis upon a small group of lymphatics extending along the pericardium to the bronchial lymph nodes which lie dorsal to the base of the lung. It has been shown experimentally that decreased activity of the diaphragm retards the lymphatic flow. Operations on the upper part of the abdomen invariably cause a decrease of diaphragmatic action which in turn leads to hypoventilation of the lung bases and stagnation in the diaphragmatic lymphatics. Since, following operations on the stomach and duodenum, these lymphatics may contain organisms, a possible route of infection is provided for primary involvement of the diaphragmatic pleura and extension into the lung (Trueta Raspall, 64).

Pre-operative factors predisposing to pneumonia include senility, general debility, and long periods in bed before the operation (Lubin, 42). Males are affected twice as frequently as females (King, 37). The effects of heavy pre-operative sedation have been discussed under atelectasis and the same considerations pertain to pneumonia.

Abdominal operations, particularly those in the upper part of the abdomen, are followed by a high incidence of pneumonia. Other factors predisposing to postoperative pneumonia are long operative procedures, hemorrhage, shock, and exposure to cold during and after operation. The type of anesthesia does not seem to be a factor.

The patient's position on the operating table and in bed postoperatively is important. During operation, the Trendelenburg position is advisable when possible. Long periods in one position lead to congestion of the dependent lung and subventilation. Anything leading to subventilation,

such as position, constricting bandages, pain, and deep sedation by morphine, is to be avoided.

There is also a rather small group of cases in which cardiac factors increase the possibility of pulmonary difficulty after operation. From a study of a group of patients with cardiac conditions who were subjected to operation, Purks (51), concluded that in cases in which the cardiac condition is well treated congestive heart failure is not a very important factor in the causation of postoperative death. However, in the presence of cardiac conditions postoperative pulmonary infections are more frequent and are often associated with infarction.

SYMPTOMS AND DIAGNOSIS The onset of pneumonia usually occurs later than that of atelectasis, the symptoms and signs not appearing until at least forty-eight hours after operation. Physical signs of consolidation are present. In pneumonic lesions, rales are the earliest findings, whereas in atelectasis they do not occur until late (Bergh, 7).

Overholt and Veal (47) call attention to the frequency with which, after operations, particularly abdominal operations, abnormal physical signs due to mechanical factors rather than inflammatory changes in the lung may be found in the chest. Caution is therefore necessary in the interpretation of the signs.

In the roentgen diagnosis of pneumonia error occurs by far most frequently in the differentiation of the condition from atelectasis. Van Allen has shown that areas of pneumonic density always present a heterogeneous shadow due to the presence of varying amounts of residual air scattered throughout the lesion. The congestion and consolidation of early bronchopneumonia are seen as hazy streaks or mottling in the lung fields. As the consolidation spreads, the opacities increase in number, size, and density and become more confluent. However, even at the height of the disease, careful scrutiny discloses faint mottlings rather than a completely uniform density. Another factor of prime importance in the roentgenographic diagnosis of pneumonia is the space-occupying properties of the infected lung. In a lung infected with pneumococci Van Allen and Wu demonstrated that the volume of the infected area was about normal during expiration and frequently smaller than normal during inspiration. The roentgenographic characteristics of a pneumonic process can be based upon this observation. The hemi-diaphragm may be elevated on inspiration but not on expiration. There is usually no mediastinal or tracheal shift in pneumonia. A slight shift may be noted at the height of inspira-

tion but never on expiration (King 37, Van Allen, La Field, and Ross 66)

The prophylactic measures to be considered for the prevention of postoperative pneumonia are practically identical with the measures to be considered for the prevention of atelectasis. The pre-operative requirements are (a) the eradication of infections of all types as far as possible (b) postponement of operation, except in emergency procedures, in the presence of acute respiratory infections (c) the emptying of pulmonary cavities by posture or bronchoscopy and (d) improvement of the patient's general condition. Ingelmund (10) uses a nasal spray or suprarenal preparation as a preventive measure.

At operation everything must be done to prevent excess secretion and the aspiration of noxious substances. Negus (46) points out that an excess of mucus an alkaline reaction and certain anesthetics paralyze the cilia of the respiratory tract thereby destroying their protective action in the removal of substances. The importance of a rapid atraumatic surgical technique and a constantly warm atmosphere are stressed. Coryllos (17) emphasizes the value of diathermic heating of patients undergoing thoracoplasty.

The anesthetic chosen seems to be of very little importance as long as deep narcosis is avoided. Hyperventilation at the close of operation is now extensively employed.

The postoperative precautions indicated include the maintenance of bodily warmth and frequent changes of the patient's position to prevent stasis of secretion, and of the circulation. Excessive sedation should be avoided. Carbon dioxide inhalations may be advisable during the first postoperative days. Coughing expectoration, and deep breathing exercises should be encouraged. Factors leading to hypoventilation such as distention should be combated when necessary and constricting dressings and positions avoided.

TREATMENT. The treatment of pneumonia is far less satisfactory than that of massive atelectasis and its results are certainly less spectacular. Changing the patient's position and deep breathing exercises (Lemley 41, Eliason and McLaughlin 11) are employed to prevent spread of the inflammation by the stagnation of infected secretions in the subventilated pulmonary tissue. The venous congestion of the dependent portion of the lung likewise lead to spread of consolidation (Bandiera 41).

The administration of oxygen preferably by means of an oxygen tent relieves dyspnea and decreases cyanosis (Bandiera 41). Carbon dioxide

inhalations are used therapeutically as well as prophylactically to combat hypoventilation and stagnation of bronchial exudate (King 36, Prinzmetal Brill and Leake, 50, Balfour and Gray, 3). Expectorants aid by thinning viscous secretions and facilitating their removal.

PROGNOSIS. The prognosis in postoperative pneumonia is grave. Although the condition is fairly infrequent it is responsible for a fatal outcome more frequently than any other pulmonary complication. In the series of cases reported by King (37) there were thirteen deaths due to pulmonary complications and in eleven of the fatal cases, a diffuse bronchopneumonic process was found. It is obvious, therefore, that our attention should be directed toward the prevention rather than the treatment of pneumonia following surgical procedures.

BRONCHITIS

Bronchitis is frequently encountered both before and after operation. While it is not a serious complication in itself it may be a forerunner of more serious conditions. Mention of it is justified since recognition of its frequency leads to a better understanding of the pathological processes involved in the more serious lung complications.

Purulent bronchitis develops in a large percentage of patients after operation. In many cases the infection is limited to the bronchi. In others, it spreads to the pulmonary tissues, causing a low grade pneumonia or pneumonitis. In a third group the secretion blocks the bronchi producing atelectasis.

The incidence of bronchitis is much higher after operations for hernia than after gastric operations where severe pulmonary conditions are much more frequent after gastric operations. This fact confirms the theory that secretions are present after both types of operation but that after operations on the upper part of the abdomen they are retained longer and the infection is therefore allowed to spread into the pulmonary tissue. When drainage is impaired in bronchitis the organisms present in the exudate are given an opportunity for growth and as a result the bronchial mucosa becomes irritated and edematous.

Infection excess mucus secretion condensation of ether or chloroform in the nasal passages and aspirated gastric contents blood and pus cause bronchial irritation and paralyze the cilia depriving the airways of their protective action (Negus 46). All factors leading to a irritation and stagnation tend to initiate bronchitis. Dental sepsis is an important etiological factor.

The signs and symptoms of bronchitis include a copious purulent sputum an irritative cough

fever of early onset, and respiratory difficulty. Many coarse rales are constantly present over large areas. No consolidation is evident. The onset of bronchitis occurs earlier in the post-operative course than that of pneumonia (Frdmann, 22).

The measures indicated for the prevention of bronchitis are the same as those indicated for the prevention of atelectasis and pneumonia. Negus (40) stresses the importance of avoiding anesthesia of the larynx in operations on the nose and throat under local anesthesia.

The chief essential in the treatment of bronchitis is early removal of the irritating substances from the airways by coughing, postural treatment, or occasionally by bronchoscopy. During cough the inflamed bronchial walls may be approximated completely so that pus located distally cannot be expelled. Under these circumstances it may be necessary to insert an aspirating bronchoscope and remove the secretions by means of a fine flexible suction tube.

The prognosis in bronchitis alone is favorable. The danger lies in the sequelae of the condition—atelectasis and pneumonia.

PULMONARY EMBOLISM AND INFARCTION

The most dreaded of all postoperative complications, pulmonary embolism, usually occurs during convalescence when the danger of the usual complications is past and the patient is well on the road to recovery. Treatment in general is futile. In the massive embolisms death occurs promptly. In spite of advances in surgical technique and pre-operative and postoperative care, the incidence of embolism has been little reduced.

ETIOLOGY. According to the literature on embolism it is impossible to ascribe the process to any definite factor or group of factors, although contributing factors are said to be many and varied. It is rather generally conceded that the clot originates in the veins in the lower part of the body, namely, the hypogastric, iliac, femoral, pelvic, or prostatic veins, rather than the veins of the operative field (Bartels, 5, Cutting, 18).

According to Bartels, 75 per cent of emboli occur in women, whereas, according to Hunt, the incidence of embolism is twice as high in women as in men. Embolism may occur at any age, but is most frequent between the thirtieth and fiftieth years of life.

Important in the etiology of embolism is slowing of the blood stream. This may be the result of numerous factors. Abdominal incisions tend to produce stasis in the abdominal vessels (Coombs,

16). The pre-operative blood pressure gives no clue to the possibility of later embolus formation in a given case, but lowering of the pressure during or following operation favors stasis and thrombosis. Patients with cardiac disease and myocardial damage show a higher incidence of pulmonary embolism than patients without cardiac disease (Purks, 51, Hunt, 28).

Direct trauma to vessel walls at operation should be avoided. It must be borne in mind that large veins not in the immediate operative field can be traumatized by retractors (Bartels, 5, Hunt, 28). Patients with thrombophlebitis often have small emboli which result in pulmonary infarction. While massive fatal emboli are not frequent, phlebitis should be regarded as a possible forerunner of a large embolus.

The general condition of the patient seems to be rather significant as the majority of emboli occur in patients in poor general condition. The incidence of embolism is highest in debilitated patients, patients with malignant disease, dehydrated patients, and particularly patients with infection (Bartels, 5, Hunt, 28, Cutting, 18). No importance is attached to the type of anesthesia used.

Along with stasis of the blood stream resulting from depression of the circulation, mechanical causes, lowering of the metabolism, and changes in the blood itself have been stressed. Increased viscosity resulting from dehydration is dangerous.

Allen has reported changes in the erythrocytes, the leucocytes, the prothrombin time, the fibrinogen, and the lipoids after operation. Koenig (30) stressed the effect of injury to the blood platelets during operation. The findings made by Brock (6) in a study of the behavior of blood platelets following operation agree with those of previous studies made by others. A fall in the platelet count during the first postoperative days is followed after from five to seven days by a rise which reaches its maximum after from ten to twelve days and is followed by a gradual return to normal in about three weeks. The degree of the rise seems to be related definitely to the severity of the operation, but varies in different patients subjected to the same operation. The pattern of the platelet count is the same as that noted after parturition and fractures of long bones. In following the platelet count in a patient who developed a venous thrombosis after thorocoplasty, Brock found the platelets at their maximum when the thrombosis developed. The high platelet count certainly does not initiate the thrombosis, but it may precipitate the thrombosis when other

factors are present and it favors the rapid extension of a clot once formed.

SYMPTOMS AND DIAGNOSIS The usual time of onset of embolism is from four to seventeen days after operation. Ebergeny (19) reports a case in which embolism developed twenty minutes after a forceps delivery. Villard (68) records the occurrence of a fatal embolism in a patient who was allowed to be up the day after a clean appendectomy through a McBurney incision and in a patient who was allowed to be up the day after the repair of an umbilical hernia.

The symptoms of embolism call for very little discussion. The sudden onset of a sense of suffocation, anguish, dyspnea, precordial pain, and pallor followed by cyanosis, engorgement of the jugular veins and rapidity, weakness or disappearance of the pulse are outstanding symptoms. A large embolus suddenly occluding the pulmonary artery causes death in one or two minutes. Incomplete occlusion prolongs the symptoms. Occlusion of one branch of the artery is compatible with life but if it occurs suddenly may be fatal because of myocardial and circulatory collapse. Smaller emboli produce less severe symptoms of the same character which gradually subside. The immediate symptoms are later followed by pleural pain and sometimes by effusion. After a few days cough may develop and blood may appear in the sputum. One embolus suggests the possibility of a second or may cause further trouble by extension.

The clinical symptoms in embolism are more important than the roentgenological findings. The latter are only suggestive as the early condition is one of hyperemia followed by local consolidation and occasionally by pleural involvement (Hawk, Shepard and Purkiss 27). The characteristic wedge shaped area does not appear until after from eight to twenty days. The earliest change is a haziness or mottling of the area. In the more extensive cases a fairly dense shadow may be evident. As compared with the findings in lobar pneumonia the shadow is less dense of a different distribution and more sharply outlined and shows greater pleural involvement.

There is little or no mediastinal displacement the diaphragm may be high, but is not extremely elevated and some respiratory excursion is present. In a case in which there were infarcts of several months duration due to fibrosis and shrinkage Van Allen, La Field and Ross (66) observed environmental displacement during both inspiration and expiration.

The fact that there was only one death from embolism in a thousand cases in which operation was

performed makes it very difficult to appraise the value of any given prophylactic measure. Since the etiological factors in embolism are not definite, the preventive measures advocated are variable and to a large extent empirical. Trauma being probably an etiological agent every effort should be made to avoid tissue damage, especially damage to the larger vessels by retraction and direct manipulation. In any operation upon varicose veins the first step should be proximal ligation (Hunt 28).

The procedures suggested for correction of the blood changes favoring embolism have been numerous. A high protein diet has been found to increase the clotting power of the blood and a high carbohydrate diet to diminish it. The use of sodium thiosulphate to inhibit clotting has been advocated but the number of cases in which this treatment has been employed is too small to prove its value (Starley Brown). Fluids given in sufficient amounts (3,000 ccm daily) prevent increased blood viscosity.

Early exercise of the arms and legs and deep breathing exercises while the patient is in bed keep the circulation in a more active state. Martin believes that the administration of calcium chloride for eight days after operation is beneficial. Walters has advocated the use of thyroid extract to increase the speed of the circulation. In the cases of patients with cardiac conditions careful pre-operative preparation and postoperative care seem to have decreased the danger of embolism (Hunt 28).

When a venous thrombosis appears in any location very special precautions should be taken to prevent dislodgment of the thrombus. The patient should be examined routinely for signs of thrombosis before he is allowed to be up for the first time and when thromboses are found complete rest should be prescribed. No massage or movements should be allowed. Nausea and vomiting must be controlled. After one pulmonary embolus has occurred very special nursing care should be given in order to insure complete rest.

TREATMENT The treatment of cases in which the embolus is not large enough to cause rapid death is still a problem. The immediate treatment indicated consists of oxygen insufflation and morphine relation. In cases of large emboli the spectacular Trendelenburg operation has occasionally saved life. The greatest handicaps in the application of this procedure are the difficulty in differentiating a massive embolus from a coronary or myocardial complication and the extremely narrow time margin.

PROGNOSIS In an experimental study of pulmonary embolism Holt and Ettinger found that, in the dog, the pulmonary artery may be compressed as much as 75 per cent without causing death. Total occlusion causes death in ninety-three seconds. Occlusion of a main branch of the pulmonary artery increases the pulmonary arterial pressure and lowers the aortic pressure. Holt and Ettinger are of the opinion that death from pulmonary embolism is a mechanical rather than a reflex effect and depends entirely upon the size of the embolus.

FAT EMBOLISM

Fat embolism occurs rather frequently after the manipulation of long bones and most frequently after trauma to atrophic bones in which the fat content of the marrow is increased. It may be the cause of deaths attributed to shock, toxemia, infection, concussion, or pneumonia. Fat droplets are carried to the right heart where, if the accumulation is great, they may cause a circulatory disturbance similar to that produced by air embolism. If the fat passes the heart, some of it may lodge in the coronary vessels, but most of it enters the lung, producing edema, congestion, hemorrhage, and, in rare instances, infarction. Some of the particles of fat may pass through the pulmonary circulation and eventually lodge in any organ of the body (Cutting, 18).

The symptoms and signs of fat embolism usually appear two or three days after extensive fractures or manipulations of long bones or any tissue rich in fat. They vary with the location of the emboli. They may be cardiorespiratory or cerebral.

The cardiorespiratory manifestations include precordial distress, dyspnea, and cough. A rapid, irregular pulse, low blood pressure, hemoptysis, and cyanosis may be present. The heart may be dilated, and many bubbling râles are heard throughout the lungs in the absence of obvious changes in the percussion note. The temperature gradually rises.

PROPHYLAXIS For the prevention of fat embolism, gentleness in the handling of tissues which contain large amounts of fat, adequate postoperative immobilization in cases of fracture, and the avoidance of prolonged anesthesia induced with a fat solvent such as ether are recommended.

After the embolism is present, the treatment is entirely symptomatic. In some cases the condition runs a fulminating course with death in a few hours while in others it continues for days or weeks and is sometimes followed by recovery.

PULMONARY ABSCESS, GANGRENE, AND BRONCHIECTASIS

Pulmonary abscess, gangrene, and bronchiectasis are infrequent postoperative complications. Calonge Ruiz and Gonzalez Gil (12) observe that abscess may follow a long-standing atelectasis as the result of bacterial growth occurring in the collapsed area, and that if anaerobes are present gangrene may result.

Bronchiectasis may develop slowly after postoperative atelectasis or pulmonary suppuration and is almost always associated with a chronic sinusitis. Thick secretions in the bronchus, if not removed, are thinned by putrefactive processes giving rise to intensely irritating substances which produce changes in the bronchial walls favoring bronchiectasis (Jackson and Jackson, 32).

The history of bronchiectasis is usually so long that it is difficult to be certain that the onset coincided with the operation to which it is attributed. In many cases the condition is due to an old suppurative sinusitis, but the symptoms and signs become accentuated after an operation (Negus, 46).

Foreign bodies aspirated at the time of operation are the cause of pulmonary abscess in a small group of cases. During operations on the upper air passages or tonsils aspiration is favored by abolition of the reflexes and depression of the tongue (Negus, 46). Simple aspiration of foreign bodies at times other than at operation usually does not cause abscess. In Jackson's opinion, the sudden and violent onset of abscess formation following tonsillectomy is more characteristic of a septic embolism than the action of a foreign body. A foreign body such as a tooth, a piece of bone, a piece of instrument, or a piece of tonsil in the bronchus does not produce a purulent lesion primarily. The onset of suppuration is slow, and the pus formation strictly endobronchial (Jackson and Jackson, 32).

Pulmonary abscess may result from the blockage of a bronchus by infected blood or mucus. As the bacteria in inspired blood multiply, they cause swelling of the bronchial walls and often granulation tissue. They continue to grow and to infect the collapsed lung, and as the lung cannot be drained through the obstructed bronchus an abscess may be formed. If anaerobic organisms are present, gangrene of the lung may result. Multiple dilatations of the bronchi may follow any long-standing inflammation of the bronchi with blowing out of the weakened walls during cough (Negus, 46).

SYMPTOMS AND DIAGNOSIS. Jackson contrasts the symptoms of the two types of abscess: (a) the

embolic postoperative abscess with a rapid onset characterized by shock, high fever, prostration and profuse sepsis and (b) the chronic suppuration chiefly endobronchial which follows foreign body aspiration and is accompanied by a slight cough coming on within a few days, some expectoration occurring within a few weeks and the expulsion of foul pus and a fetid odor to the breath after a few months.

In the first type roentgenograms of the chest show a cavity with a fluid level whereas in the second type they may show a local inflammatory reaction but no fluid level.

Manges reports that displacement phenomena are absent in pulmonary abscess unless there is pleural involvement and when pleural involvement is present only the diaphragm is affected.

PREVENTION. The precautions indicated for the prevention of pulmonary abscess, gangrene and bronchiectasis following operation are the same as those indicated for the prevention of other pulmonary complications. Especially important are measures to prevent the aspiration of blood, foreign bodies and pus. In addition it is important to prevent clot formation by making certain that blood does not accumulate in the nose and nasopharynx during or after the operation.

If measures are taken to prevent infection of the lungs at the time of operation bronchiectasis will not be a late complication of anesthesia. Early tracheostomy to remove blood secretions or foreign bodies will prevent subsequent abscess formation (Jackson and Jackson).² Nigam³

attached to the patient's voluntary effort at frequent deep breathing and his voluntary expectoration of accumulated sputum by coughing. The use of bronchoscopy in the removal of such accumulated material is advocated by several surgeons but in severely ill patients seems unwise and undesirable.

The dangers of over sedation are recognized. Sufficient morphine to prevent the pain which is due to pain but not enough to abolish the protective cough reflex is the happy medium to be attained.

Granting the importance of postoperative and after operation and of hyperventilation in the development of pulmonary complications it is easy to understand the apparent absence of a correlation between the type of anesthesia employed and the incidence of such complications. In the past this lack of correlation has been ascribed to the setting free of mucus from the field of operation. However it may be attributed with equal justification to failure of the lung to rid itself of noxious intrabronchial secretions. Certain it is that recognition of the fact that deep breathing and change of position assist in the expulsion of such secretions has resulted in a definite decrease in the incidence of massive atelectasis. Presumably also the same measures will be of aid in the prevention of patchy atelectasis and therefore a decrease in the incidence of postoperative pneumonia may be expected.

BILL H. PATTY

- 10 BELL, P. Further experiences concerning postoperative thrombosis and embolism. *Norsk Mag f Lægevidensk.*, 1932, 67: 957.
- 11 CANOT, R. C. Three cases of postoperative fatality. *New England J Med.* 1933, 205: 250.
- 12 CALONGE RUIZ, A. and GONZALEZ GIL, U. Sobre colapso masivo atelectásico de pulmón. Aportación de 90 casos personales. *Arch de med. cir y especial* 1933, 14: 1385.
- 13 CARLSON, H. A. Inhibition of respiration as a factor in the pathogenesis of postoperative pulmonary complications. *J Thoracic Surg.* 1932, 2: 196.
- 14 CLARK, G. N. Fat embolism. Two fatal cases. *Lancet*, 1933, 2: 77.
- 15 COBURN, R. C. Minimizing early postoperative pneumonia. *J Am M Ass.* 1933, 100: 1392.
- 16 COOMBS, J. N. A report of post-operative pulmonary complications. *Am J Surg.* 1933, 21: 425.
- 17 COYALLOS, P. N. Etiology, prevention, and treatment of postoperative hemorespiratory complications in the surgical treatment of tuberculosis. Endotracheal anesthesia combined with bronchial suction, 84 cases—152 operations. *J Thoracic Surg.* 1933, 2: 384.
- 18 CUTTING, R. A. Principles of Pre Operative and Post-operative Treatment. 1932 New York, Hoeber.
- 19 EBERGENT, A. Unmittelbar nach der Geburt aufgetretener embolischer Lungeninfarkt. *Zentralbl f Gynecol.* 1933, 57: 1186.
- 20 EBERGENT, S. Pulmonary infarction immediately after delivery. *Orvostudios* 1932, 23: Sanderh 50.
- 21 ELIASON, L. L., and McLAUCHLIN, C. Postoperative pulmonary complications. *Surg., Gynec & Obst.*, 1932, 55: 716.
- 22 ERDMANN, J. F. Recognition and treatment of post-operative complications. *Pennsylvania M J.* 1933, 36: 391.
- 23 FALKNER, W. B., JR., and FALLNER, E. C. Post-operative massive collapse of the lung. *Northwest Med.* 1933, 32: 87.
- 24 GIORDANO, G. Dati statistici sulla frequenza stagionale delle complicazioni polmonari post-operatorie. *Boll e mem Soc piemontese di chir.* 1933, 3: 735.
- 25 GIULIANI, J. M. Embolia splenica de la pulmonaria. *Arch ital di chir.* 1933, 35: 33.
- 26 HALL, G. E., and EITTINGER, G. H. An experimental study of pulmonary embolism. *Canadian M Ass J.* 1933, 28: 357.
- 27 HAWK, G. W., SHEPARD, W. F., and PUPKISS, S. T. Postoperative pulmonary complications, with emphasis on roentgen findings. *Guthrie Clin Bull.* Sayre, Pa., 1933, 3: 5.
- 28 HUNT, E. L. Postoperative thrombosis and embolism. *New England J M.* 1933, 208: 730.
- 29 INGELMUND, A. Behandlung und Verhuetung der postoperativen Pneumonie. *Med Welt*, 1933, p 563.
- 30 IVANISSEVICH, O., FERRARI, R. C., and PRINERO, T. Complicaciones pulmonares post-operatorias. *Semana med.* 1932, 2: 12.
- 31 JACKSON, C. Postoperative pulmonary complications. Are they preventable? *Laryngoscope*, 1933, 43: 499.
- 32 JACKSON, C., and JACKSON, C. L. Postoperative pulmonary complications. *Internat. Clin.* 1932, 4: 151.
- 33 Idem. Bronchoscopic observations on postoperative pulmonary complications. *Ann Surg.* 1933, 97: 516.
- 34 JOHNSON, J. B., and CRAWF, C. F. The roentgen diagnosis of massive atelectasis of the lung. *Radiology*, 1933, 21: 388.
- 35 KIMPAKOVSKY, M. A. Prophylaxis of certain complications following abdominal operations. *So. et. Vrach Gaz.* 1932, p 539.
- 36 KING, D. S. Postoperative pulmonary complications; carbon dioxide as a preventive in controlled series. *J Am M Ass.* 1933, 100: 21.
- 37 Idem. Postoperative pulmonary complications, a statistical study based on two years' personal observation. *Surg., Gynec. & Obst.* 1933, 56: 43.
- 38 Idem. Postoperative pulmonary complications, the part played by the anesthesia as shown by two years' study at the Massachusetts General Hospital. *Arch. & Anal.* 1933, 12: 243.
- 39 KOENIG, W. Ein Vorschlag zur Vermeidung der postoperativen Thrombose und Embolie. Vergleichende Beobachtung an 1500 Operierten. *Deutsche med. Wchnschr.* 1933, 59: 85.
- 40 KOUTS, A. La reproduction expérimentale des signes cliniques de l'embolie gazeuse. *Bull. et réim. Soc. méd. d'hop. de Par.* 1933, 49: 664.
- 41 LEXLIS, C. Pulmonary complications following anesthesia. *J. Michigan State M. Soc.* 1934, 33: 18.
- 42 LEBER, M. L. Internal drainage, its significance in the prevention and treatment of post-operative pulmonary atelectasis. *Am J Surg.* 1933, 19: 80.
- 43 MAILLEFRET, K. Calciumprophylaxe der postoperativen Lungenkomplikationen. *Zentralbl f Chir.* 1932, 59: 2103.
- 44 MANGES, W. F. and FARFELL, J. T., JR. The significance of roentgenological changes in the differential diagnosis of atelectasis. *Am J Roentgenol.* 1933, 30: 420.
- 45 MUELDORFF, K. Massiver Lungenkollaps. *Deutsche Ztschr f Chir.* 1933, 240: 173.
- 46 NEGUS, V. E. Bronchoscopy in the diagnosis and treatment of postoperative lung complications. *Proc. Roy. Soc. Med., Lond.* 1933, 26: 1127.
- 47 OVERHOLT, R. H., and VRAI, J. R. On the incidence, character, and significance of abnormal physical signs in the chest occurring after major surgical operations. *New England J Med.* 1933, 203: 242.
- 48 PEPONI, A. Trattamento broncoscopico della atelektasi polmonare postoperatoria. *Atti e mem. Soc. Lombarda di chir.* 1933, 1: 131.
- 49 PRALL, S. R. Acute massive atelectatic collapse of the lungs. *Indian M. Gaz.* 1933, 68: 326.
- 50 PRINZMETAL, M., BRILL, S., and LEAKE, C. D. Post-operative pulmonary subventilation. *Surg., Gynec. & Obst.* 1933, 56: 129.
- 51 PERKS, W. K. The cause of death of patients with organic heart disease subjected to surgical operation. *Ann Int. Med.* 1934, 7: 885.
- 52 PUTNOKY, J., and FARKAS, K. Vergleichende pathologisch-histologische Untersuchung des Herzmuskels bei 1.000 Obduktionen, unter besonderer Beachtung der Faele von Thrombosen und Embolien. *Arch. f. path. Anat.* 1932, 287: 400.
- 53 RINECKER, F. Ueber postoperativen massiven Lungenkollaps. *Muenchen med. Wchnschr.* 1933, 80: 608.
- 54 ROMER, W. Ueber die Häufigkeit von Thrombosen und Embolien im Goettinger Sektionsgut vor und nach dem Kriege. *Ztschr. f. Kreislaufforsch.* 1933, 23: 171.
- 55 ROSS, A. H. Atelectasis of the lung and lobar pneumonia, their etiological identity. *Northwest Med.* 1933, 32: 93.
- 56 SAUEBRUCK, Ueber die sogenannten postoperativen Lungenentzündungen. *Zentralbl. f. Chir.* 1933, p 981.

- 57 SCHEIDTER F Wettereinflüsse auf den Eintritt von Embolien und den Durchbruch von Magen- oder schwachen Deutsche Ztschr f Chir 1933 239 107
- 58 SCHWARTZ V Die postoperative von Lungenkomplika- tionen bei Kindern Vestnik Khir 1933 87 137
- 59 SERGENT F Embolie dite galeuse au cours d'une résection pulmonaire faite sous anesthésie locale Hémiplegie gauche transitoire Traitement par l'acétylcholine Vérification nécropsique du ramol- lissement Bull. et mém Soc méd d hop de Par 1933 41 667
- 60 STANKKE E V Zur Prophylaxe und Therapie post- operativer Lungenkomplikationen Zentralbl f Chir 1932 59 93
- 61 SUTTON P W Massive collapse of the lung J Med. Cincinnati 24 300
- 62 TAFFER S Thrombose und toedliche Embolie an der Innsbrucker Frauenklinik in den Jahren 1910-1929 Zentralbl f Gynaek 1933 57 796
- 63 TIXIER L CLAVEL C. and MONTIER KERN P Atelectasie pulmonaire postopératoire traitée par la broncho-aspiration Lyon chir 1933 30 18
- 64 TRUETA KASPALE J Las complicaciones pulmonares postoperatorias en la cirugía abdominal alta Rev de cirug de Barcelona 1932 4 312
- 65 VAN ALLEN C M Verhaeltnis der kollateralen Res- piration zur Pathogenese der postoperativen Atelek- tase und des obstructiven Emphysems. Beitr z klin Chir 193 156 589
- 66 VAN ALLEN C M LA FIELD W A. and ROSS P S The roentgen diagnosis of atelectasis with special reference to the ground glass shadow and the degree of pulmonary shrinkage Radiology 1934 21 27
- 67 VANVERT LAMIER and PALLUZE Oedème aigu du poulmon consécutif à l'anesthésie locale lors d'avorte- ments thérapeutiques pour cardiopathie Bull Soc. d obst et de gynéc de Par 1933 21 755
- 68 VILLARD M Deux cas d'embolies mortelles au cours du leier précoce. Lyon chir 1933 30 606

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Cardillo, F.: Secondary Neoplasms of the Vault of the Cranium from the Roentgenological Point of View (Le neoplasie secondarie della volta cranica dal punto di vista radiologico) *Radiol med*, 1935, 22 205

The author divides secondary neoplasms of the vault of the cranium into (1) those involving the bone by contiguity from the extracranial and endocranial structures, and (2) those involving the bone through metastasis from a distance.

Extracranial structures which may give rise to neoplasms later invading the vault include all the structures of the scalp. The epicranial aponeurosis may develop sarcomas especially of the fibrosarcoma type which, though they develop usually toward the skin and cause it to ulcerate, may at times invade the bone in a perforating manner. These tumors are very malignant, grow rapidly, and are richly cellular. The subcutaneous tissues of the scalp rarely form sarcomas. Tumors of the verrucous type developing from warts are usually more benign and only rarely invade the bone. The tuberous form are much more malignant. The primary neoplasm is often a fungus-like growth. Smaller tumors usually appear about it. Metastases occur early. Differentiation from carcinoma may require microscopic examination.

Malignant epithelial tumors are the most common invaders of the vault. Of these, the squamous type is seen most often. The author reports seven cases. A wart or traumatic excoriation may be the primary growth. At times no lesion seems to precede the carcinoma. It is not easy to determine the exact time of bone involvement. Invasion of the bone is best discovered early by X-ray examination. The early slight erosions or excavations are easily missed. Characteristically, the region of osseous erosion is in direct relation to the superficial region involved, the contour of the defect is regular and usually well demarcated in all phases of the process, one or both tables may be involved, and the extension of the process varies in rapidity.

Meningiomas of the dura may cause fairly characteristic changes in the overlying cranial bones. These changes usually include erosion and vascularization, alteration of the type of ossification, spicule formation, diffuse thickening, dilatation of the sulcus of the meningeal artery, and possibly the presence of calcification. The erosion is not clean cut, but is spongy, irregular, and not well defined. The tumor penetrates along the haversian canals, dilates them, and causes destruction up to the separating laminae.

Metastatic neoplasms in the vault of the cranium may be formed by any type of tumor. In general the localization in the skull bones occurs during the stage of generalized skeletal invasion, but in rare instances the skull bones may be involved first. The X-ray appearance of these lesions is more polymorphic, and it is rare to see a single lesion. Very rarely do the individual lesions approximate the size of the directly infiltrating lesions. As a rule there are many small foci which, grouped together, form a circumscribed area or the small foci are diffused over the entire convexity. In general the lesions are osteolytic. Frequently they originate in the diploe, where their early detection may be difficult. When one of the tables is involved the lesion is more easily recognized. In the differential diagnosis it is necessary to consider local disseminating tumors, metastases from a distance, Schueller-Christian disease, circumscribed osteoporosis, tuberculosis, lymphogranulomatosis, syphilis, Paget's disease, and meningiomas.

A. Louis ROSE, M.D.

Fodor, G. I.: Odontogenous Osteomyelitis of the Lower Jaw (Odontogene Osteomyelitis des Unterkiefers) *Orvosekézés*, 1934, 24 169

In the disease picture of odontogenous osteomyelitis of the jaw the much more frequent involvement of the lower jaw is a striking characteristic. This is explained by the difference in the anatomy of the upper and lower jaws on the one hand and the difference in their blood supply on the other. Odontogenous infections are intradental or paradental. Cases of osteomyelitis appearing after extraction constitute a special group. The injuries to the periosteum which follow infection depend upon the virulence of the infection and the resistance of the organism. Mild infection leads to serous periostitis while severe forms lead to periostitis with abscess formation. As the anatomical relationships become progressively more complicated as the back of the mandible is approached from the midline, it is not a matter of chance that osteomyelitis with a grave outcome and infection endangering life almost always have their origin in the lower molar teeth.

The incidence of infections originating in the teeth is wholly independent of the incidence of caries. Of great importance in the development of osteomyelitis of dental origin is the course of the mandibular canal. The nearer the involved teeth to the mandibular canal the easier it is for pus to break through into the canal. Spread of the osteomyelitic process to the other side of the jaw usually occurs by way of the canal. Further progress is favored by dis-

semination through the bone marrow. The severity of the disease does not always parallel its distribution but if the osteomyelitic process remains in the interior of the bone or is limited laterally the acute phenomena usually subside more quickly and complications are less frequent. When the infection in the body of the jaw extends to the larger marrow spaces the consequences are apt to be more serious. Diffuse inflammation of the medullary cavities leads to phlegmons or abscesses which form suppurative cavities by confluence (abscessus mandibularis). The complications in the diffuse forms are of functional and cosmetic importance and may endanger life.

In infancy, osteomyelitis usually develops in the upper jaw. Brønner explains the occurrence of osteomyelitis in the first months of life by birth traumas to which the upper jaw is more exposed than the more mobile lower jaw. After infancy, a complete change takes place. Following the second year of life, disease of the upper jaw is infrequent. Even the hematogenous infections occur chiefly in the lower jaw. After eruption of the teeth intra-dental and paradental infections are most common. Infection of the child's jaw is favored by the congested condition of the growing bone.

In osteomyelitis of the lower jaw the acute and chronic stages run into one another in such a manner that the transition is scarcely discernible. The different phases may continue from four to six weeks to several months or even years. The chronic stage is characterized by necrosis of the bone.

The operative treatment of osteomyelitis of the mandible has two phases—active treatment and conservative expectancy. Active treatment is suitable for the febrile acute stage of the disease. The first step consists in locating and cleaning out the source of the infection, the infectious focus. The suppurating medullary cavities are opened with the chisel and the pus found in the Haversian canals is removed. Another part of the active treatment is the opening of periosteal abscesses and the phlegmons which follow the course of the connective tissue furrows. The active treatment must frequently be interrupted by a number of months of waiting. The dying bone often requires a long time to become separated from the living tissue. The necrotic bone should not be removed until the process of dying is completed and the sequestrum is completely free. Regeneration begins with ossifying osteitis, the result of which is newly formed bone. The problem of bone regeneration has not yet been solved by scientific research. Of the bone-forming factors the periosteum plays the rôle of greatest importance. The regenerative capacity of the jaw bone is quite extraordinary.

(F. ILLES) FLORENCE ANNAN CARPENTER

McGregor L. A Report of Eleven Instances of Adamantinoma with a Review of the Malignant Cases in the Literature. *Lancet* 1935 10 254

The author reviews twenty-eight adamantinomas reported in the literature and eleven observed by

himself which showed more or less evidence of malignancy. The atypical microscopic features were (1) marked cellularity of the stroma which in some cases was as extensive as in fibrosarcoma (2) predominance of the cuboidal over the stellate and cylindrical types of epithelial cells, or (3) preponderance of epithelium over stroma with inter-twining and branching of the epithelial processes.

EYE

Plummer, W. A. and Wilder R. M. The Etiology of Exophthalmos: Constitutional Factors, with Particular Reference to Exophthalmic Goiter. *Arch. Ophth.* 1935 13 833

Forward displacement of the eyeball occurs in a variety of general diseases but is unusual except in exophthalmic goiter. In syphilis, tuberculosis, neurofibromatosis, multiple xanthomatosis, and other conditions in which granulomatous masses or tumors may fill the orbit the explanation of any resulting exophthalmos is obvious. In the hemorrhagic diseases including rickets, scurvy, and the various forms of leukemia, intra-orbital hemorrhage may produce exophthalmos. In nephritis, hypertension, and other conditions of so-called sympathetotonia, true proptosis is very unusual, contrary to opinions recorded in the literature, although retraction of the lids and possibly other factors which contribute to a facial expression somewhat like that observed in exophthalmic goiter is frequent.

In large groups of patients the presence or absence of exophthalmos in exophthalmic goiter is correlated directly with the severity of the hyperthyroidism as indicated both by the basal metabolic rate and the strength of the quadriceps femoris muscles. In the period since 1930, during which the severity of exophthalmic goiter has been milder, the incidence of associated exophthalmos has diminished to 40 per cent. Before 1922 it was almost 70 per cent.

In exophthalmic goiter, exophthalmos may develop or progress in two rather distinct phases of the disease. It may occur in association with an elevated basal metabolic rate and with the constitutional symptoms of the disease, and it may appear in an otherwise quiescent phase of the condition when the basal metabolic rate is within or even below normal levels and constitutional symptoms are absent or, at least, attenuated. Exophthalmos which develops when the basal metabolic rate is elevated in exophthalmic goiter is usually moderate. Edema of the lids is present in only a small percentage of the cases and is usually slight. The proptosis is almost always bilateral and equal or nearly equal in both eyes. It usually is associated with spasms of the muscles of the lids and one or more of the characteristic signs which have been described by Dalrymple, Stellwag, Graef, Möbius, and Wolff. Weakness of the external ocular muscles which is indicated by the occurrence of Möbius sign is common but ophthalmoplegia and strabismus are unusual. Remission of the exophthalmos usually follows the decrease in the basal metabolic

rate and remission of the other manifestations of the disease which are brought about by thyroidectomy.

Exophthalmos developing or progressing when the basal metabolic rate in the course of exophthalmic goiter is within, or even below, the normal level and constitutional symptoms are absent is unusual. Zimmerman referred to it as "paradoxical exophthalmos." As a rule its degree is much greater than that of the exophthalmos associated with an elevated basal metabolic rate. Edema of the lids and chemosis of the conjunctiva are the rule. They may be extreme, and may lead to corneal ulceration and panophthalmitis. The condition has been termed "malignant exophthalmos." This exophthalmos is very likely to be unilateral or to affect the eyes unequally. Ophthalmoplegia is common, but spasm of the muscles of the lids is not marked and, in consequence, the characteristic "stare" of the exophthalmic goiter is little evident.

The exophthalmos which occurs with the elevated basal metabolic rate of exophthalmic goiter may perhaps be explained by spastic contraction of the orbital fibers of Mueller's muscle, which acts against the weakened rectus muscles. The absence of mydriasis under these conditions may be accounted for by the observation of Labbe and his associates that thyroxin has not only a sympathomimetic action but also stimulates parasympathetic elements of the autonomic nervous system. The authors, unfortunately, possess no recent reports of examinations of the orbit in this condition. The information available indicates that there is little fat, little edema, and very little venous congestion, and that the extra-ocular muscles are small and degenerated.

The explanation of the mechanism of the exophthalmos which occurs in patients who have a low basal metabolic rate is not apparent. The evidence from the laboratory suggests that overfunction of the anterior lobe of the pituitary body may play a part in the production of this abnormality. Another possibility is presented by the two-product hypothesis of H. S. Plummer, which is based on the assumption that the abnormal product continues to act after the output of the normal product, thyroxin, has been curtailed. The edematous contents of the orbit are comparable in some respects to localized subcutaneous areas of mucinous edema which are found in rare cases of exophthalmic goiter, particularly after thyroidectomy. Whatever the mechanism, it is difficult to understand why a few patients develop this paradoxical exophthalmos after subtotal resection of the thyroid gland for exophthalmic goiter when the large majority lose what exophthalmos they had previously and show no sign of its recurrence. Further investigation of this problem is under consideration.

Kirwan, E. W. O'G.: Orbital Teratoma. *Brit J Ophthalm*, 1935, 19, 201

The author reports a case of orbital teratoma and reviews the twelve cases that have been recorded in

the literature. He states that such tumors are congenital and grow very rapidly. They may occur in the form of cystic tumors and may be composed of the derivatives of two or three germinal layers. As a rule, orbital teratomas cause death a few weeks after birth.

The best explanation of the formation of teratomas is the Marchand-Bonnet theory that, during the early development of the embryo, the blastomere severed from its connections may remain as a resting germ in any part of the body and begins to grow later or develop at the same time as the normal organs. As blastomeres are still capable of producing a normal body after the first segmentation, but are able to produce only a few parts on continued division, derivatives of all or only some of these embryonic layers are present in a teratoma according to whether it is near or distant from the first cleavage. The earlier the segmentation occurs the less frequently does the germ remain latent.

On the basis of their degree of development, Mizuo distinguishes the following four types of orbital teratoma:

1. A fetus or teratoid fetus attached to the orbit by an umbilical cord.

2. Parts of the body of a second fetus hanging from the orbit.

3. A shapeless mass growing from the orbit and found anatomically to be a teratoma.

4. The congenital orbital tumor containing the products of two germinal layers (a mixed tumor). Mixed tumors of the lachrymal gland are of this type.

Teratomas sometimes contain parts of organs and parts of the body. Von Hippel states that they never contain complete organs. LESLIE L. MCCOY, M.D.

Bielschowsky, A.: Lectures on Motor Anomalies of the Eyes. III. Paralysis of the Conjugate Movements of the Eyes. *Arch Ophthalm*, 1935, 13, 569

Supranuclear lesions result in paralysis of the associated muscle groups of both eyes, except in the case of lesions of the posterior longitudinal bundle or in the immediate neighborhood of the nuclei of the oculomotor nerves. Such a lesion may cause loss of adduction of one internal rectus muscle in lateral movements without affecting its convergence function or may make both elevator muscles of one eye unable to produce a voluntary elevation without disturbing the involuntary elevation noted in Bell's phenomenon. With these exceptions, the diagnosis of a supranuclear lesion is based chiefly on bilateral and equal paralysis of associated muscle groups.

Paralysis of the parallel lateral movements has been studied mainly in patients with lesions of the associated pathways either within or near the pons and the region of the fourth ventricle. In an uncomplicated case of this type neither eye can look beyond the midline toward the affected side, but binocular single vision and convergence are not disturbed. A patient who had had an acute encephalitis involving the pons had a residual associated

paralysis of the parallel movement to the left, being unable to look to the left or to see an object in the left half of the visual field. During fixation of an object in front the head was rotated with a sudden jerk to the right. The eyes moved to the left to a nearly normal extent, but immediately began a slow involuntary return to their original position proving the reflex character of the motion. The following movement to the left was obtained by slow movement of the head to the right or of the object to the left. This phenomenon is caused not by a vestibular reflex action but by an impulse of cortical origin.

The most frequent of the associated paralyses of the vertical movements involve the elevator muscles. The next most frequent are paralyses of the elevator and depressors, and the rarest are paralyses of the depressors. In some cases Bell's phenomenon is the only proof of the supranuclear origin of paralysis of the vertical movements and of the integrity of the nuclei. If an associated group of muscles of both eyes is unable to perform a voluntary movement but reacts promptly when the head is rotated suddenly, the posterior longitudinal bundle which conveys the vestibular stimulus to the oculomotor nuclei is intact. Barany's tests for a certifying the vestibular excitation are important aids in examination. They can be used in the cases of bedridden or somnolent patients. The vestibular stimulus continues for about a minute. The use of the revolving stool or the caloric test gives information concerning the vestibular apparatus, since as long as the paralyzed muscles respond to vestibular stimulation it may be assumed that the nerves, their nuclei and the pathways connecting them with the vestibular apparatus are intact.

Many patients able to follow moving objects lack the ability to make an attraction movement, i.e. to turn the eyes toward an outlying object. Both kinds of movement belong to the so-called psycho-optic reflexes because being produced by visual stimuli, the origin is assumed to be in the occipital lobes. It is not considered necessary to assume the existence of separate centers and pathways for a patient unable to overcome 5 or 10 degrees of prism may be able to overcome a prism of 1 or 2 degrees and then gradually become able to overcome a prism of 8 or 10 degrees.

Information obtained by the various methods of investigation may allow an approximate localization of the lesion causing the associated paralysis. In 'pseudo ophthalmoplegia' the patient is unable to move his eyes at command but they are moved involuntarily in states of emotion or if he is interested in an object. The following movements and the reflex movement of vestibular origin are undisturbed. The lesion is usually transcranial, damaging the connections between the frontal oculomotor centers and other parts of the cortex. Similar symptoms occur in diseases of the extrapyramidal system. More frequent is the second group characterized by inability to move the eyes in a certain direction

either voluntarily or at command, and to move them toward an object which is attracting attention. The following movement and the reflex movements can be produced. In this group the lesion is probably below the cortex not far above the nuclear region. In a third group the paralyzed associated muscles react only to reflex stimulation indicating that the lesion must be located close to the nuclei, the posterior longitudinal bundle being intact. In a fourth group the paralyzed muscles do not respond even to a reflex movement and therefore either the posterior longitudinal bundle or the nuclei themselves must have been injured. The latter supposition is untenable in cases of paralysis of the lateral movements if convergence is retained and in paralysis of vertical movements if Bell's phenomenon is present. In the fifth group of associated paralyses there are in addition to the symptoms of a supranuclear lesion, signs and symptoms indicating an injury of the nuclei, such as paralytic squint and diplopia and a variation in the action of the paralyzed muscles according to the mode of stimulation.

The syndrome of so-called post-encephalic parkinsonism is observed in diseases of the extrapyramidal motor system or the corpus striatum, as in paralysis agitans, pseudosclerosis, Wilson's disease and Huntington's chorea. The patient, apparently unable to move the eyes on command, moves them spontaneously at times. The following movement and the reflex movements are present but in contrast to the patient with true supranuclear paralysis the patient with parkinsonism of the Parkinson type is able to keep his eyes in the terminal position as long as his attention is directed to the point of fixation.

Cases of associated ocular paralysis by lesion within the cerebral hemispheres are generally unsuitable for exact investigation because of the poor mental condition or because of the quick recovery of ocular movements. In some cases the findings are the same as those in the first group. The different causes of the conjugate deviation which is found in most cases of recent cerebral lesions make it easy to understand why the deviation is usually greater than in cases of supranuclear paralysis of pontine origin and sometimes disappears within a few hours. The rapid recovery is probably due to the presence of centers in both hemispheres for the parallel lateral movements.

In view of the fact that convergence paralyses are frequently caused by a lesion within the region of the corpora quadrigemina a subcortical convergence center is presumed to be in that region. The isolated lesion of this center or of the pathway descending to the nuclei of both internal rectus muscles must produce the symptoms of a pure convergence paralysis. In such a case convergence is lost whereas the internal rectus muscles cooperate with the external rectus muscles in lateral movements. True convergence paralyses of organic origin are rare. Many of the reported cases are instances of functional disturbances. Convergence is the only one of the fusion

movements which can be performed voluntarily. The fact that if binocular single vision is lost or has never existed, convergence is diminished or absent proves that the fusion faculty is the most essential factor in convergence. The voluntary impulse to look at a near point is of only minor importance in convergence. Insufficiency of convergence occurs as a true functional neurosis in anemic or delicate persons, in patients convalescing after an exhausting illness, and as a symptom of general neurasthenia or hysteria. In conditions of this type convergence cannot be produced by the usual methods, but in several cases has been induced by testing with objects which attracted the patient's attention and interest. When this occurs pupillary action, accommodation, and convergence may be produced. The presence of the adduction power as determined by the use of prisms also helps to differentiate the functional from the organic condition.

To prove that the lack of convergence is of organic origin, it is necessary for the following requirements to be met:

1. There must be definite symptoms of an organic intracranial disease.
2. The convergence paralysis must have occurred rather suddenly.
3. The signs and symptoms at various times must be fairly constant.
4. Accommodation and convergence reaction of the pupils must be producible without the corresponding convergence.

If internal ophthalmoplegia and convergence paralysis are present, a lesion of the nuclear region and possibly also of the supranuclear pathway descending from the convergence center is certain.

Theoretically, the possibility of the occurrence of divergence paralysis must be conceded. However, in many cases with paralysis of one or both abducens nerves presenting typical symptoms at first, the characteristic symptoms were gradually lost and a concomitant type of deviation developed. Other patients have been seen with apparently typical symptoms which were caused by a slight convergence spasm. It is not unusual to find inability to transform convergence into parallelism in combination with weakness of the convergence innervation. This peculiarity is observed especially in neurasthenia, in which condition increased irritability occurs together with marked exhaustion. A third anomaly which may be mistaken for divergence paralysis is the development of an esophoria which had been latent, due to loss of the fusion faculty following physical or psychic shock. In spite of the difficulties in diagnosing a true divergence paralysis, there are records of cases in which the typical manifestations of divergence paralysis changed rather suddenly into equally typical manifestations of abducens nerve paralysis. Such a development is proof of an organic lesion localized at first near the intact abducens nucleus but later extending and finally injuring the nucleus itself.

EDWARD S. PLATT, M.D.

Marshall, C. R.: Entoptic Phenomena Associated with the Retina. *Brit. J. Ophthalm.*, 1935, 19: 177

Marshall states that the rods and foveal cones can look backward and observe the retinal pigment and choriocapillary circulation.

On rare and chance occasions the retinal pigment may be seen under different and high magnifications.

The difficulties of observation and different appearances are attributed to varying positions of the outer segment of the rods and cones, possibly caused by greater or less relaxation of the myoid of the inner segment.

The outer segment is regarded as the site of transformation of light energy to nervous excitation.

The darting luminous points are attributed to red blood corpuscles in the capillaries of the inner nuclear layer.

The self-light of the eye is probably associated with energy emanating from the pigment particles of the retina and from the retrolental circulation.

Most unexplained entoptic appearances associated with the retina, except those which may be due to, or influenced by, the mentality, especially the powers of pictorial conception, of the individual, are explained as out-of-focus presentations of normal structures in or adjoining the retina.

LESLIE L. MCCOY, M.D.

Arruga, H.: The Present Status of the Treatment of Detachment of the Retina. *Arch. Ophthalm.*, 1935, 13: 523.

Following a detailed description, with illustrations, of his procedure in the treatment of detachment of the retina, the author draws the following conclusions.

In more than half of the cases of detachment of the retina operative treatment restores vision.

Successful results require the prompt localization and obstruction or isolation of retinal tears.

Except in special cases, the choice of operative method is of secondary importance as the same effects can be obtained with the thermocautery and galvanocautery and by diathermy and trephination. In general, however, diathermy is the method with the greatest advantages. Good pre-operative localization and ophthalmoscopic control of the steps of the operative procedure are essential.

LESLIE L. MCCOY, M.D.

MacDonald, A. E., and McKenzie, K. G.: Sympathectomy for Retinitis Pigmentosa. *Arch. Ophthalm.*, 1935, 13: 362

The authors have treated four cases of retinitis pigmentosa by cervical sympathectomy. From their experience they conclude that it is necessary to remove part of the first and second ribs to obtain adequate exposure and to insure removal of the stellate ganglion along with the sympathetic fibers which leave the cord by way of the eighth cervical and first thoracic nerves. In all of their four cases the operation was done on the right side. It was followed by definite regression in one case, no

improvement in one case and slight improvement in two cases. Of the last two cases the improvement was more marked in the patient with the shorter history of retinitis pigmentosa.

VIR IL WESCOTT M.D.

EAR

Thorell I. The Treatment of Malignant Tumors of the Middle Ear at Radiumhemmet, Stockholm. *Acta radiol.* 1935 16 47

After reviewing the literature the author reports on thirteen cases of malignant tumor of the middle ear which were treated at Radiumhemmet. Of nine patients treated for cancer two are still free from symptoms nine and seven years respectively after the beginning of the treatment. In one of the latter healing was obtained by irradiation alone and in the other by a combination of electrocoagulation and irradiation. Two patients with mucous gland and salivary gland tumors were free from recurrence for intervals of about a year at a time. A patient with a dural sarcoma remained cured nine years after operation with postoperative irradiation.

NECK

De Quervain F. The Diagnosis and Treatment of Malignant Struma (Zur Diagnose und Therapie der Struma maligna). *Bull. schweiz. Ver. exp. Med.* 1934 1 273

The general relationship of malignant to benign goiters cannot be determined as not all cases of goiter are seen by physicians. In the Bern Clinic the ratio of malignant to benign goiters is 4 to 100. An early diagnosis of malignancy is favored by (1) the rapid growth of old nodules or rapid appearance of a nodule in moderately enlarged thyroid (2) rapid hardening (this may be produced also by calcification but X-ray examination facilitates the differential diagnosis) (3) decreased mobility on swallowing and manipulation (4) a nodular surface especially in carcinoma (however absence of nodularity does not exclude struma maligna) (5) radiating pain, damage of the recurrent nerve with hoarseness and paralysis of the sympathetic nerve with the Horner syndrome (6) deterioration of the general health and (7) rapid sedimentation of the erythrocytes.

Especially to be considered in the differential diagnosis are hemorrhagic cysts but it must not be forgotten that endothelioma is often found in the walls of such old cysts. Also to be ruled out are chronic strumitis, tuberculous, tertiary syphilitic inflammation and Riedel's struma. Acute swellings with hardening may occur also in influenza.

The best treatment is radical operation. The technique is the same as that of operation for goiter but the small muscles are always removed. The jugular vein and the recurrent sympathetic and vagus nerves can be sacrificed on one side but not the carotid. Whereas formerly the trachea and esophagus were also resected they are now spared.

De Quervain places in the wound 1 or 2 radium capsules containing from 10 to 20 mgm of radium filtered by 2 mm of platinum which are packed in a small piece of rubber tubing and supplied with threads for their removal. He leaves these in place for two days. From six to eight weeks later several radium capsules containing a total of from 40 to 60 mgm of radium are applied at a distance of 3 cm. from the skin for from four to six days. If radical operation cannot be performed as much of the growth as possible should be removed to protect the patient from later dyspnea and the remaining tumor mass should be irradiated. This procedure can be followed even when metastases are present. The author has no objection to biopsy with the diathermy loop in suspicious cases.

De Quervain's results are presented in 5 tables. Of 43 patients subjected to radical operation in the period from 1918 to 1931 23 (54 per cent) were still living after three years. Of 387 patients treated in 5 clinics 132 (34 per cent) were living after three years. In De Quervain's cases there was 1 death. This was due to pneumonia. Among 189 cases there were 55 of proliferating struma, 12 of carcinoma, 28 of sarcoma, 19 of endothelioma, 3 of malignant adenoma and 2 of parastruma. The average length of life after the onset of the condition in these groups was respectively 58, 51, 0 and 66 years. The duration of life after the beginning of the treatment in progressive struma, carcinoma, sarcoma and endothelioma was as follows: radical operation with out irradiation 49, 49, 0 and 47 years; radical operation with irradiation 37, 17, 0.43 and 5 years; partial operation without irradiation 0.3, 0, 0.16 and 0.16 years; partial operation with irradiation 0.7, 1.0, 0.25 and 0.25 years and irradiation alone 0.8, 0.33, 0.43 and 0.017 years.

Of the patients treated by radical operation 51 per cent are living after three years, 31 per cent after five years and 14 per cent after ten years.

De Quervain has given up preliminary roentgen irradiation. He believes that the results of post-operative irradiation would have been better if less effort had been made to avoid injuring the larynx and trachea.

PAUL STARR M.D.

Mulvihill D. A. A Contribution on Malignant Tumors of the Thyroid (Beitrag zu den bösartigen Geschwulsten der Schilddrüse). *Deutsche Zeitschr. f. Chir.* 1934 244 71

Comparative studies of the frequency and character of goiter have been numerous. In Europe extensive studies of this type have been made especially by Bircher and Hirsch. Various theories as to the development of goiter are based on the recognition of regions in which goiter is frequent, those in which it is infrequent and those in which it does not occur at all. But as yet no entirely satisfactory solution of the problem has been possible. In fact even the basis of these theories was only partially correct. For example, nearly all of northern Germany including Brandenburg was regarded as free from

goiter, whereas the investigations reported by Staemmler in 1914 and especially those reported by Nussbaum in 1934 from the Pathologico-Anatomical Institute of the Charité demonstrated that Berlin and Brandenburg are not regions in which goiter is infrequent but zones of endemic goiter. Moreover, Sauerbruch, who had considerable experience in goiter surgery during the time he was practicing in Zurich and Munich, on several occasions commented on the astonishing frequency of goiter in his Berlin practice. In a report from his clinic, Middelдорff called attention to the fact that in contrast to the operative material in Munich, the operative material in the Charité showed a predominance of unilateral and thyrotoxic goiter. In the nine years from 1918 to 1927, 1,450 cases of goiter were operated upon in Munich, whereas in the first three years of his Berlin practice Sauerbruch operated upon 319 cases. The ratio of cases in the 2 cities for the nine-year period may therefore be calculated as 1,450/957.

Nearly all statistics regarding the incidence of goiter include malignant struma. They show that, with an increase of goiter, there is an increase also in malignant tumors of the thyroid (Coller, Graham, Erhardt, Wegelin). This is evidenced also in the material of the Pathologico-Anatomical Institute of the Charité. Staemmler reported 13 malignant strumas and Nussbaum 29. Mulvihill concluded that a comparative surgical contribution based on American conditions would be of interest.

In Berlin, in the period from 1928 to 1934, there were 155 cases of Basedow's disease and 615 cases of struma, a total of 770 cases of goiter. Among these there were 32 cases of malignant struma. In the Long Island Hospital, in the period from 1920 to 1932, there were 1,149 cases of Basedow's disease and 1,236 cases of struma, a total of 2,385 cases of goiter. Among these there were 29 cases of malignant struma. The numerical difference between the statistics of Sauerbruch and those of the Long Island Hospital was due to the difference in the recognized indications for the operative treatment of benign goiter. In Sauerbruch's cases the indications are based chiefly on clinical factors (the position and size of the goiter). Diffuse and nodular changes in the thyroid, especially in young persons, are not treated surgically at once. In the cases of women, cosmetic factors are also considered in determining the indications for operation. Thyrotoxic symptoms are first treated medically. In America, indications for operation are recognized much more frequently. In the New York clinic operation is performed in nearly all cases of nodular changes in the thyroid, especially those with slight thyrotoxic symptoms which are much more common in America than in Germany. Such cases constitute 30 per cent of the total number of cases of diffuse or nodular strumas in New York. Moreover, in America the general practitioner advises operation at the first appearance of thyrotoxic symptoms. Leading surgeons such as Plummer, Lahey, Graham, Coller, and Goetsch see in the simple "adenomas" the most fre-

quent source of origin of the "toxic adenoma" and the stage preceding the development of the "malignant adenoma." Practically every toxic or nodular struma developing after the thirtieth year of age is treated surgically. Without doubt, the considerable difference in the ages of the patients at the 2 clinics is explained by the difference in the recognized indications for surgery. Of the 29 patients with malignant struma who were seen in the New York Clinic, 12 were between the second and fourth decades of life, whereas of the 32 patients with malignant struma who were seen in Sauerbruch's clinic, only 2 were of that age. With the exception of 2 patients who were sixteen and twenty-nine years of age respectively, all of Sauerbruch's patients with malignant struma were between forty and seventy-two years old. A short history of goiter was given in only some of the cases in both clinics. The brief duration of the symptoms in a large percentage was noteworthy. In the majority a goiter had been present for from two to thirty years. In the latter the period of quick growth of the tumor and the development of symptoms began with a loss of weight.

Because of the earlier recognition of indications for surgery in the New York Clinic, more than half of the malignant strumas were first diagnosed at operation or at microscopic examination of the specimen after operation. The tumors belonged to the group of "malignant adenomas." The greater number of these strumas were entirely unsuspected clinically. Only the minority of the patients with such tumors presented unmistakable signs of a malignant neoplasm when they entered the hospital. In Sauerbruch's clinic, where malignant degeneration was proved by histological examination in only 5 cases, most of the patients entered the clinic in an inoperable condition.

Differences are shown also by a comparison of the histological findings in the 2 clinics. In Sauerbruch's cases most of the neoplasms were carcinomas, whereas in those of Goetsch, the majority were "malignant adenomas." In New York, sarcoma was observed only once, whereas in Berlin, 5 sarcomas, including 1 carcinosarcoma were discovered. Since, in the opinion of American pathologists, papillary adenocarcinomas, metastasizing adenomas, proliferating strumas, carcinoma solidum, and struma colloidales maligna, as well as papilloma, are believed to have their origin in an encapsulated adenoma, they are all included under the term "malignant adenoma." The earliest sign of malignant degeneration of the at first benign adenoma is the penetration of otherwise unsuspected epithelium into the blood vessels of the adenoma. As American surgeons are of the opinion that 85 per cent of all malignant strumas have their origin in an encapsulated adenoma and only the remaining 15 per cent are to be regarded as scirrhous carcinomas (Billroth), they believe that early operation is indicated. Graham's theory regarding "metastasizing adenoma" and the proliferating struma is supported by the German patholo-

gist, Wegelin, but other developmental possibilities are recognized for carcinoma (the carcinomatous struma of Langhans carcinoma solidum). Sauerbruch believes it doubtful that carcinomas always have a relationship to adenomas. He defends the theory that some of the malignant tumors have no relation to nodular goiter as even the most malignant tumors develop in a short time without the presence of a noteworthy goiter. Moreover, penetration into the blood stream was never found in the Berlin material although local and regional lymph gland metastases were common.

In conclusion the author urges that in Germany the relationship between adenoma and malignant goiter be investigated further and an attempt made to prove or disprove the theory of American pathologists by systematic study of removed thyroid tissue.

(LXXIX) PAUL STARR MD

Stewart Harrison R. and Sarasin R. Malignant Disease of the Larynx and Pharynx. *J Laryngol & Otol* 1935 50 233

During the last six years cases of malignant disease of the upper air and food passages and of the buccal cavity have been treated by a technique called the 'protracted fractional treatment' the principles of which were originally laid down by Coutard. The authors describe this technique and discuss the reactions of the various tissues.

The skin reaction is not a limiting factor and not an indicator for treatment. It is reduced or prevented by the application of red and infrared rays. The reactions of the blood salivary glands, blood vessels, nerves and muscles are but rarely decisive

factors in the treatment. The reaction of the mucous membrane is important as an indicator. The reaction of the substrate tissues—connective tissue, capillaries, muscle, nerve, bone, cartilage—is of supreme importance. Damage to the substrate either by the tumor or by the treatment leads to a reduction in the relative sensitivity of the tumor. Infiltrating and infected tumors recur and incompletely treated tumors begin with a damaged substrate and are resistant to treatment.

The technique must be modified according to the relative sensitivity in the given case. The more resistant a tumor the slower is its reaction to irradiation and the longer must the treatment be continued. The time may vary from twenty to one hundred days. The size of each dose and the total dose are dependent on the time. The time must be varied during the course of the treatment according to the local and general reactions. When a long time and large fields are used the local reactions must be light. Accordingly, small individual doses are used. Thereby the intensity of the radio-epithelitis and the effect on the general condition is reduced. The subjective and objective effects of the radio-epithelitis are greatly relieved by the use of ultra short wave therapy.

The basis for the technique described was provided by certain classical experiments which proved that by lengthening the time (decreasing the intensity) of irradiation by decreasing the size and increasing the number of the single doses it is possible to destroy the malignant tissues more effectively and protect the healthy tissue from irreparable damage.

SIMON KURY MD

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL NERVES

Marinesco, G., and Goldstein, M: The Cells of a Metastatic Adeno-Epithelioma of the Dura Mater. The Part Played by the Microglia (Quelques considérations sur les éléments constitutifs d'un adéno-épithéliome métastatique de la dure-mère Rôle de la microglie) *Ann d'anat path*, 1935, 12 101.

Recently the authors had occasion to examine an adeno-epithelioma of the lower surface of the dura mater in a woman fifty-two years of age who had been operated on several years previously for a tumor of the breast. The psychic symptoms caused by the edema of the brain resulting from the malignancy of the tumor had almost completely masked the symptoms of tumor. The metastasis had apparently been carried to the dura mater by way of the superior longitudinal sinus. The tumor was surrounded by a connective tissue capsule which divided it into lobules. It was distinctly glandular and showed typical gland structures with acini to such an extent that it looked like a papilloma of the choroid plexus. The gland structures alternated with areas without any structure in which the tumor tissue had undergone necrosis and hyalinization.

The tumor cells are described in detail and shown by photomicrographs. Among them were many infiltrating cells which resembled those formerly called macrophages but when examined with Hortega or Penfield staining appeared to be young microglia cells. Apparently the tumor cells had secreted an irritating substance which had caused a reaction on the part of the surrounding tissue, which in turn had brought about an infiltration of the vessels with polynuclears and a necrosis of tissue resulting in an agglomeration of microglia cells, the function of which was to engulf the destroyed tissue and the debris of the tumor itself after it had become necrotic. The presence of microglia cells in a tumor which does not contain nerve tissue or glia shows that these cells must have reached the neoplasm by way of the circulation. This is a strong argument in favor of the mesodermal origin of microglia cells.

The brain substance around the tumor showed dilated blood vessels and small masses of calcareous tissue. Where the fibrous capsule was lacking and the tumor was in direct contact with the brain the latter was infiltrated with the plasma cells which surrounded the acini of the tumor. The malignant tumor had irritated not only its own cells but also the surrounding brain tissue as almost all of the left hemisphere presented a marked edema visible to the naked eye.

AUDREY GOSS MORGAN, M D

SPINAL CORD AND ITS COVERINGS

Butler, R W.: Paraplegia in Pott's Disease, with Special Reference to the Pathology and Etiology. *Brit J Surg*, 1935, 22 738

In a survey of 501 cases of Pott's disease, paraplegia was found in 92 (11.4 per cent). Butler reviewed also 94 other cases of paraplegia with Pott's disease, a total of 186 cases. The paraplegia developed with equal frequency under and over the age of sixteen years. The lesion occurred in the cervical region in 16 cases, in the thoracic region in 22 cases, in the midthoracic region in 83 cases, in the low thoracic region in 52 cases, at the thoracolumbar junction in 12 cases, and in the lumbar region in 1 case.

The cases were of 3 types. In those of the first 2 types the paraplegia developed early, while in those of the third type it developed late, sometimes not until many years after the apparent crisis of the disease.

In cases of Type 1 the paraplegia usually occurs within the first two years of the disease and is usually complete. It may remain stationary for many months, but patients who recover usually show some improvement after six months. The paraplegia is due to a toxic and vascular reaction in the cord which in many cases is supplemented by compression due to granulation tissue or pus. In the cases reviewed, the causes of the mortality associated particularly with paraplegia of this type (45 per cent) were septic absorption from sores and ascending urinary infection. In 30 per cent of the cases general spread of the tuberculosis was the cause of death.

In cases of Type 2 the paraplegia develops early and persists even when the tuberculous infection in the spine becomes completely quiescent. Most persons who develop paraplegia of this type have had inadequate treatment. In the cases reviewed, the incidence of paraplegia of Type 2 was 10.9 per cent. Paraplegia of this type is established because the disease lasts so long before healing occurs and its toxic, vascular, or mechanical effect on the cord is so profound that the damage to the nerve tissue becomes permanent. Compression of the cord by bone may result from (1) a pathological dislocation of the spine with pinching of the cord following destruction of the posterior intervertebral joints or the pedicles and articular processes, or (2) the forcing back of loose sequestra or masses of debris with collapse of the other bodies into the vertebral canal.

The incidence of paraplegia of Type 3 in the cases reviewed was 49.7 per cent. Paraplegia of this type is not always permanent. Seventy-one per cent of the patients under sixteen years of age and 52 per

cent of the older patients recovered under conservative treatment. The condition was not commonly due to primary compression of the cord by bone.

Tuberculous pachymeningitis often mentioned as a probable cause of paraplegia, was not encountered in the reviewed cases. **POBERT ZOLLINGER M.D.**

SYMPATHETIC NERVES

Knight G. C. Sympathectomy in the Treatment of Achalasia of the Cardia. Brit J Surg 1935 22 864

The author states that most series of cases of achalasia of the cardia include the following three separate entities with a different pathological basis: (1) vagus failure or achalasia of the cardia; (2) spasmodic contraction of the cardia or cardiospasm; and (3) hypertrophic stenosis of the cardia. Therefore the term 'achalasia', meaning absence of relaxation, is used in its widest sense to cover the factor common to all three conditions—absence of relaxation of the cardia—and not to denote a definite pathological entity.

The clinical picture of cardiospasm is well known. The most common site of the obstruction is at the level of the diaphragm, but in a few cases the dilatation may be seen to extend as far as the cardiac orifice of the stomach. More rarely the obstruction may be above the diaphragm.

If the obstruction is due to the presence of an intrinsic sphincter the whole lower inch or two of the esophagus must be included in the sphincteric action in order to account for the variable site of the obstruction. The presence of an anatomical sphincter is extremely difficult to demonstrate, but Shattuck has shown two preparations which exhibit a widespread thickening of the circular muscle extending onto both esophagus and stomach and situated entirely below the level of the diaphragm. In post mortem examinations in typical cases of cardiospasm it is never possible to demonstrate muscular hypertrophy in the sphincteric region.

In contrast is the type of condition which simulates achalasia in its symptoms and X-ray appearance but differs from the latter in that there is a muscular hypertrophy. Such a condition is obviously not due to incoordination of the nervous control of the cardia and is comparable to congenital hypertrophic pyloric stenosis.

The author discusses the various theories regarding the cause of achalasia and reviews experimental work on the production and relief of cardiospasm. He states that as integrity of the sympathetic nerve supply is necessary for the development of obstruction, whether the latter is due to vagus failure or to spasm the obstruction should be relieved by sympathectomy.

In cases of vagus failure lesions of the vagus trunk are rare. Kraus reported a case in which the vagus nerve was degenerated and Potter a case in which it was involved by a mass of glands. The main site

of vagus involvement is at the ganglia of Auerbach's plexus, in which Rake demonstrated chronic inflammatory changes progressing from round-celled infiltration to degeneration of the ganglion cells and complete fibrosis. In some cases no degenerative changes are found. If the normal function of Auerbach's plexus is disturbed sympathectomy, while decreasing the sphincter tonus might still leave the tube dilated.

In considering cases of the spasmodic type Walton discarded cases of hysterical spasm in young women because they fail to show dilatation of the esophagus. Local reflex spasm due to esophagitis or ulcer or following an operation is usually transient. However true cases of the spasmodic type occur. The author cites a case in which the condition followed perineal excision of the rectum and a case in which it followed the perforation of a duodenal ulcer.

The various forms of treatment are discussed briefly. They include dilatation of the cardia by several means, plastic operations on the esophagus or cardia and short circuiting operations. The findings of a follow-up of sixty-six patients treated for the more severe variety of the condition indicate that the various methods of treatment by dilatation are not completely successful. The period of relief was apparently proportional to the initial degree of stretching. It was longer in the cases in which digital dilatation was done. Plastic operations have little to recommend them. The most uniformly successful operation is esophagogastronomy. In the treatment of cardiospasm by sympathectomy a bilateral cervicothoracic ganglionectomy was recently performed at the Mayo Clinic. The patient obtained symptomatic relief but a bilateral Horner syndrome was produced. A preferable procedure is denervation of the left gastric artery. The first evidence that this operation affects the human cardia was obtained in a case in which celiac sympathectomy was performed by Hume in the treatment of gastric ulcer. Roentgen examination two years after the operation showed abnormally rapid passage of the meal through the cardia.

To effect a denervation it is necessary to excise the left gastric artery with its surrounding fat and nervous tissue. Division of the artery alone or of the trunks alone is inadequate. Rarely, a branch may be seen passing directly from the left celiac ganglion to the cardia and not along the course of the vessels. The approach to the left gastric artery is made through the lesser omentum. In all cases it is necessary to excise the left gastric vein. A left paracostal incision or a double subcostal incision may be employed.

The author reports three cases, one of each of the three types. In the first case the condition was of the spasmodic type and was completely relieved after neurectomy. In the second case it appears to be a true achalasia and the sphincter tonus is diminished but there is still some dilatation. Bilateral injection of the stellate ganglia did not affect the peristalsis of the esophagus. In the third case

example of hypertrophic stenosis of the cardia, there has been some diminution of the dilatation of the esophagus, but the cardiac obstruction persists. As the obstruction in this condition persists after death, it cannot be completely relieved by neurotomy.

EDWARD S. PLATT, M.D.

MISCELLANEOUS

Rupilius, K.: A Contribution on the Common Genesis of Congenital Paralysis of the Diaphragm and Torticollis (Ein Beitrag zur gemeinsamen Genese der angeborenen Zwerchfell-Lähmung und des Schiefhalses) *Arch f orthop Chir*, 1934, 34: 628

The combination of paralysis of the brachial plexus and paralysis of the phrenic nerve was not described until recent decades, when it first became possible to make a positive diagnosis of paralysis of the diaphragm by roentgen examination. This condition is rare. In the last decade eight cases have been recorded in the German literature, and in the last few years seven have been reported in other countries. In almost all of the cases the paralysis involved the superior plexus. One patient had also paralysis of the inferior plexus and a fracture of the clavicle. Paralysis of the diaphragm is manifested by difficult thoracic breathing, cyanosis, failure of the abdomen to expand on expiration, absence of movement of the affected side of the thorax, and, in the roentgen picture, high position of the diaphragm and paradoxical respiratory movements.

Paralysis of the phrenic nerve may be the result of birth trauma. Like paralysis of the plexus, it is usually a peripheral birth paralysis and is caused most frequently by extraction in cases of pelvic presentations, partly by pressure of the finger or instruments and partly by tearing in delivery of the shoulders. It may be the result also of abnormal pressure exerted within the uterus when, in pelvic

presentation, the head is pressed against the shoulder and the plexus is squeezed between the clavicle and first rib on the one side and the transverse processes of the fifth and sixth cervical vertebrae on the other. For anatomical reasons the nerves springing from the fifth and sixth roots are affected most frequently. Other signs of pressure observed more frequently are elevation of the scapula, scoliosis of the cervical spine, and pressure marks on the ear.

The case reported by Rupilius was that of a first-born female infant who presented by the breech and was delivered with difficulty by version. Shortly after birth, Erb's paralysis of the right arm, shortening of the right sternocleidomastoid muscle, scoliosis of the cervical vertebrae with the convexity toward the left, and a depression behind the right ear were discovered. At first there was only slight cyanosis. When the child was three weeks old she had attacks of suffocation when sucking and experienced difficulty in breathing. At the age of six weeks she was admitted to the clinic for suspected pneumonia with distinct cyanosis, groaning thoracic respiration, and fever. On roentgen examination the diaphragm was found in a pronounced high position on the right side and the heart displaced toward the left. Paradoxical movements were observed during respiration, and the large intestine was found to have pushed its way in between the liver and the diaphragm. Later, a triangular shadow appeared in the angle between the heart and the right diaphragm. This was attributed to mediastinal pleurisy, but at autopsy performed the thirteenth week after the child's birth it was found to be due to an atelectatic lower lobe of the right lung. The plexus and the phrenic nerve were macroscopically unchanged, and no indurations were found in their vicinity. The right sternocleidomastoid muscle was embedded in indurated tissue except for a few muscle bundles. Rupilius attributes the findings to intra-uterine pressure.

(VON DANKELMAN) FLORENCE ANNAN CARPENTER

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Cheate Sir I Schimmelbusch's Disease of the Breast and Dr A Lacasagne's Experiments on Mice *Brit J Surg*, 1935 22 710

Schimmelbusch's disease with Cheate's addition begins in a desquamative epithelial hyperplasia sometimes in the ducts only and sometimes in ducts and their acini. It may affect only one duct or only one duct and its acini or may be more widely spread. The affected ducts are dilated by the presence of colostrum like cells in a fluid medium. The end of this stage is the formation of ducts and acinous cysts. The condition begins late in the third or early in the fourth decade of life and may last an indefinite time or pass on to its next stage at once.

The next stage—the stage described by Schimmelbusch—is the development of multiple epithelial neoplastic growths within the cysts. These tumors do not transgress the dilated normal boundaries. They are frequently papillomatous. They may be limited to the ducts or may grow also in the acini. This stage is usually reached late in the fourth or early in the fifth decade of life. If the process continues the next and final stage of carcinoma begins late in the fifth or early in the sixth decade of life.

Lacasagne injected estrin into the bodies of young male mice of carcinoma strains and of strains apparently free from carcinoma and studied the breasts microscopically during consecutive stages of the treatment. Careful examination of the tissues convinced both Lacasagne and Cheate that the changes in the newly formed breast tissue are the same in kind and sequence as those occurring in Schimmelbusch's disease. Carcinoma developed earlier in the breasts of the mice of known carcinoma strains. The sections convinced Cheate that Schimmelbusch's disease is a distinct disease unrelated to mastoplasia (so called chronic mastitis).

Cheate concludes that ovarian extract deprived of its luteal content is not contra indicated in mastoplasia. It often relieves the symptoms. However it is unwise to administer ovarian residue to women with cystic breasts. EARL O LATIMER MD

Muir Sir R. The Pathogenesis of Paget's Disease of the Nipple and Associated Lesions *Brit J Surg* 1935 22 728

The author bases his views on Paget's disease on studies and observations of the lesion extending over many years rather than on the literature. He has come to the conclusion that Paget's disease results from an extension of cancerous proliferation from the ducts of the nipple to the surface of the epidermis—an overflow of cancer cells—and subsequent spread upon the surface.

To the surgeon the most important factor is the tendency of Paget's disease to be associated with or followed by carcinoma in the substance of the breast.

Paget not only gave an accurate account of the gross appearance of the nipple lesion but also noted that carcinoma frequently followed that lesion and that the site of the carcinoma had no relation to the nipple. Muir believes that the association of these two conditions is due to the fact that both are a sequel to antecedent malignant proliferation within the ducts of the gland. This proliferation may break through the duct walls and give rise to an ordinary infiltrating carcinoma.

The Paget cells in the epidermis are the characteristic feature of the disease. Similar cells are seen in the epithelium of the ducts and the acini. The only important difference is that Paget's cells in the epidermis undergo degenerative changes as they pass or are carried toward the surface. In the epithelium of the ducts and acini they remain in a more healthy and active state. The author therefore defines the Paget cell as a cancer cell growing within a healthy or at least non-neoplastic epithelium.

The term 'intraduct carcinoma' used by Muir means a malignant proliferation of the duct epithelium before it has broken through the normal limits, the walls of the ducts and infiltrated the surrounding tissues. The epithelial cells invade the latter because they have acquired the essential characteristics of malignant neoplasia. They acquire these before they transgress their normal boundaries. The malignant property is present before the infiltration occurs and the histological features of the cells in question correspond whether they are within the ducts or outside in the tissue spaces.

Intraduct carcinoma may be regarded as the final stage of the epithelial hyperplasia often present in chronic breast disease and often associated with varying degree of fibrosis and cystic change. Transitions from simple papillomatous ingrowths in the ducts to intraduct carcinoma are found. Ultimately the ducts may be filled with masses of cells showing all the histological characteristics of carcinoma. This is the stage to which the term 'intraduct carcinoma' may be applied. Such cell may break through the containing duct and infiltrate the tissues producing ordinary carcinoma of the breast.

Cells undergoing malignant proliferation may extend from the small ducts into the acini and grow within the latter. There may occur what is practically a replacement of the epithelium of the acini by cancerous growth. This is called by the author 'intra acinous carcinoma'.

Muir is convinced that intraduct carcinoma may be found in nearly all cases of ordinary breast cancer.

cinoma Its distribution varies greatly. It may occur in a localized area and may be associated with fibrous induration and cyst formation. It may occur also in several areas, or involve a large portion of the breast, or affect the ducts of the nipple. It is only when the upper parts of the ducts in the nipple are affected that Paget's disease occurs as a secondary phenomenon.

Intraduct carcinoma is a very chronic condition and may exist many years without breaking through the walls of the ducts. In fact, it may never break through. In some cases the growth may undergo regression and disappear, this process being accompanied by overgrowth of the connective tissue internal to the elastica of the duct wall with sometimes complete obliteration.

Malignant proliferation may occur in the ducts of different parts of the breast, may affect considerable areas, and may occur in the ducts of the nipple or of the breast or of both. In spreading, the malignant cells invade the relatively healthy epithelium. When they ultimately reach the epidermis of the nipple the condition is called Paget's disease.

Intraduct carcinoma of the upper portions of the ducts of the nipple is relatively uncommon. Hence Paget's disease is rare. Much more frequent is the occurrence of intraduct carcinoma in the ducts within the breast. The ordinary result is then an infiltrating carcinoma of the breast. As intraduct carcinoma may lead to one or both of these lesions, Paget's disease may precede or follow ordinary breast carcinoma or may develop without the occurrence of the latter.

J. DANIEL WILLEMS, M.D.

TRACHEA, LUNGS, AND PLEURA

Ziegelman, E. F.: Tracheal Diverticulum. Observations on a Cadaver and Results of Histological Study. *Arch. Otolaryngol.*, 1935, 21: 414.

Ziegelman reports an unusual tracheal diverticulum which was discovered in the course of a routine dissection of the lower part of the neck. He described an acquired type and a congenital type of tracheal diverticulum. The antecedent factor of the acquired type seems to be infection of the mucous glands of the posterior wall of the trachea. The exciting cause is believed to be an increase in the intratracheal air pressure. The diverticula may reach a size sufficient to produce clinical symptoms and may constitute the source of pulmonary infection. The ideal treatment seems to be surgical removal by amputation or inversion with, if necessary, a change of the patient's occupation.

JACOB M. MORA, M.D.

Adams, W. E., Hrdina, L., and Dostal, L. E.: Vascular Changes in Experimental Atelectasis. Morphological, Physiological, and Biochemical. *J. Thoracic Surg.*, 1935, 4: 377.

In experiments on animals the authors demonstrated that massive atelectasis of the lung is attended by an apparent increase in the vascularity

of the tissue. The latter is a passive congestion rather than an active hyperemia. Therefore, the volume flow of blood in atelectatic tissue is decreased.

In chronic atelectasis there is a gradual disintegration of the alveolar walls with the formation of channels leading from the circulating blood stream through the alveoli. The circulating blood re-expands the alveoli and may extend up the air passages into the smaller bronchioles. Such phenomena were first observed near the periphery of the lung parenchyma, around the larger bronchi, and after the atelectasis had been present for about four weeks. The changes slowly increased, but were never observed to replace the usual architecture of atelectatic tissue in all parts of the section.

The authors demonstrated a decreased volume flow of blood through an atelectatic lung by injecting the pulmonary arterial system, by determining the oxygen content of the blood, and by bleeding atelectatic and normal lobes of similar size. Oxygen saturation of mixed arterial blood was little influenced by the production of atelectasis of the left lung. This suggests a very low percentage volume flow of blood through the atelectatic lung.

EARL O. LATIMER, M.D.

Stoichitza, N. N., and Cretzu, V.: The Lobar Form of Pulmonary Syphilis (La forme lobaire de la syphilis pulmonaire). *Arch. méd.-chir. de l'appar. respir.*, 1935, 10: 1.

The frequency of syphilis of the lung is difficult to establish because of the divergence of various statistics. Modern studies owe much to roentgen examination. The lesions can be divided schematically into three types—gumma, fibrosis, and bronchopneumonia.

Gummas appear as rounded masses varying in size from that of a pea to that of an orange. On healing or breaking down, the lesions become stellate scars or cavities. Gummas are never numerous and may be single.

Fibrosis may be manifested by stellate scars or sclerotic bands which extend from the hilus or from a sclerotic focus in the parenchyma. In 1929 Gate described a micronodular form which resembles military tuberculosis.

Syphilitic bronchopneumonia may resemble any of the forms of tuberculous bronchopneumonia.

Pulmonary involvement is one of the latest manifestations of syphilis.

All of the lesions are observed almost exclusively in middle life.

Lobar involvement of the lung is extremely rare (Bethoux). The authors report a case, supplementing the history with three roentgenograms. The patient was a man fifty-two years old who had suffered for about six months from dyspnea, a cough with the expectoration of a mucopurulent sputum, and loss of weight and appetite. There was pain in the lower portion of the right side of the chest. Physical examination revealed signs of consolidation

in the upper third of the right lung with numerous subcrepitant and bubbling râles. The blood Wassermann reaction was positive. The sputum was negative for tubercle bacilli. The roentgenogram showed a dense homogeneous consolidation of the upper lobe of the right lung.

After three weeks of anti-syphilitic treatment the patient showed marked improvement and was discharged from the hospital. A roentgenogram made five months later disclosed a rather discrete nodule and numerous fine bands of sclerosis in the upper lobe. Seven months later only the bands of sclerosis remained.

ALBERT F. DE GROAT, M.D.

Privost Meyer and Livieratos: The Treatment of Giant Cavities by Pneumothorax (Le traitement des cavités géantes par le pneumothorax). *Presse méd. Par.* 1935 43 383.

From their experience in ten cases of pulmonary tuberculosis the authors conclude that in selected cases carefully induced pneumothorax gives very gratifying results. They report one of their cases in detail with photomicrographs. The patient was a woman twenty-eight years old. The upper right lobe was almost completely involved by an enormous tuberculous cavity. The left lung was relatively free from the disease. Successive pneumothorax treatments resulted in gradual collapse of the upper lobe and marked diminution in the size of the cavity but complete healing was prevented by adhesions between the lung and the chest wall. In attempt to section the adhesions with the thoracoscope complete sectioning was impossible because of their width but they were lengthened sufficiently to allow complete obliteration of the cavity by the reinduction of pneumothorax shortly afterward. Subsequently the lung remained completely collapsed.

NATHAN A. WOMACK, M.D.

Vaucher, E. Kabkaer, J. and Zengulnoff, G.: Considerations on Pleural Eosinophilia in Artificial Pneumothorax (Considérations sur l'éosinophilie pleurale au cours du pneumothorax artificiel). *Arch. méd.-chir. des hôp. et resp.* 1935 20 2.

Pleural eosinophilia belongs to the group of local eosinophilias established by Sabrazes (1908), Beauveron (1910), Paschett (1911), Weinberg (1913) and Petzelak (1919) and more recently studied by Gregoire (1917).

Artificial pneumothorax is often complicated by pleurisy of variable severity and attempts have been made to determine the prognosis of this complication from the cytological picture of the effusion. Rust (1912) and others have pointed out that the presence of eosinophiles is a favorable sign.

The authors report four cases in which acute pleurisy developed during the course of pneumothorax for pulmonary tuberculosis. In two cases it seemed to have been precipitated by hypodermic injections. In all of them the fluid was turbid but free from organisms. Guinea pig inoculations were nega-

tive. Differential counts made on the pleural fluid showed the number of eosinophiles to range from 10 to 36 per cent. In one case the eosinophiles in the blood rose to 10 per cent at the time the effusion was absorbed. In the others the eosinophile count of the blood was normal. In all of them the course of the pleurisy was distinctly benign.

The authors discuss the origin of the eosinophiles. They favor the view that the cells are produced locally; they appear in the blood as the result of migration from the inflammatory focus and they are to be regarded as lymphocytes, monocytes, or polymorphonuclear leukocytes which have undergone a specific form of granular degeneration. This theory is supported by the presence of mononuclear eosinophiles in the fluid.

The types of pleurisy which give rise to eosinophilia appear to be those due to toxic irritation rather than those due to bacterial invasion or physical or chemical traumatism. Efforts to produce pleural eosinophilia experimentally in dogs were unsuccessful.

ALBERT F. DE GROAT, M.D.

Fruchaud, H. and Thalheimer, M.: The Technique of Phrenicectomy with Exposure of the Accessory Phrenic and Subclavian Nerves (Technique de la phrénicectomie avec l'exposition du phrénique accessoire et du nerf du sous-clavier). *J. de ch.* 1935 45 513.

Fruchaud and Thalheimer have found that the failure of phrenicectomy as usually done to control the movement of the diaphragm is due in some cases to the presence of accessory nerves with motor fibers that anastomose with the phrenic nerve below the point of section. Failure of alcohol injection of the nerve is still more frequent.

The main trunk of the phrenic nerve runs along the anterior surface of the scalenus anticus muscle. An accessory phrenic nerve usually originating from the fifth cervical root may run parallel with the main trunk along the scalenus muscle or may be found along the external border of this muscle crossing the nerve roots of the brachial plexus. The subclavian nerve also originates from the fifth cervical root but is external to the scalenus anticus muscle although sometimes close to its external border. The accessory phrenic and the subclavian nerves may be closely associated and may even anastomose.

In order to expose and section or alcoholize these accessory nerves in the operation of phrenicectomy the incision must be made high in the neck two fingerbreadths above the clavicle. When exposed through this incision the main trunk of the phrenic nerve is found on the anterior surface of the scalenus anticus muscle usually in its median portion. Here it is easily detached and lifted out. Through such an incision also the region of the fifth cervical vertebra can be carefully explored especially its anterior surface and lower border as it is at this level that the accessory phrenic and subclavian nerves are usually to be found. When these accessory nerves as well as the main trunk of the phrenic nerve have thus been

exposed, they may be sectioned or injected with alcohol according to the indications. Any accessory fibers too small to be injected should be sectioned, even when alcohol injections are used for the larger nerve trunks. If no accessory nerve is found at the level of the fifth cervical vertebra, the region of the sixth cervical should also be explored as an accessory nerve may arise at this point. ALICE M. MEYERS

Vallebona, A.: The Roentgenological Picture of Bronchiectasis (Il quadro radiologico delle bronchiectasie) *Radiol med*, 1935, 22 329

In a brief review of the application of roentgenological methods to the study of bronchiectasis, Vallebona states that recently there has been a tendency to improve simple roentgenological technique and to eliminate the use of a contrast substance (bronchography) for visualization of the bronchial tree.

The improvement consists in the adoption of a new method, called stratigraphy, which permits visualization of a given plane and eliminates the superimposition of shadows produced by the various planes of the organ under observation. This is accomplished by imparting a slight rotary motion around a given axis either to the patient or to a rigid system connecting the tube and the film while the roentgenogram is being taken.

First the author describes and compares the roentgenograms of the normal bronchial tree obtained with and without the use of iodized oil. He stresses the importance of stratigraphy and its advantages over other methods.

In non-complicated cases of bronchiectasis slight dilatation of the medium-sized and small bronchi which usually cannot be demonstrated by ordinary roentgenological methods can be conveniently visualized by bronchography or stratigraphy. As the dilatation becomes more marked, visualization becomes possible by ordinary methods.

The most typical picture of non-complicated bronchiectasis is characterized by numerous delicately outlined circles which approach or overlap one another. Often, instead of being circular, the units of this pattern are irregularly faceted.

The picture is that of a polycystic lung. It therefore becomes necessary to differentiate mainly between the following three types of anatomicopathological entities: (1) congenital anomalies of the cystic type, (2) congenital or acquired bronchiectasis, and (3) bullous emphysema.

The author admits that differentiation between these three types is often difficult, if not impossible, but that in many cases the picture is so typical that it can be hardly misinterpreted.

He next discusses the roentgenological picture of bronchiectasis associated with other morbid conditions and presents some of his own observations and a series of roentgenograms.

He reviews the advantages of stratigraphy in the study of bronchiectasis and then describes in detail the findings of bronchography in this condition.

He takes up briefly also the differential diagnosis, stressing particularly the distinguishing features between tuberculous cavitation and bronchiectasis. In conclusion he emphasizes the importance of roentgenological examination in the study of the evolution of bronchiectasis.

RICHARD T. SOMMER

Bohrer, J. V.: Lobectomy for Bronchiectasis in Children. *J Thoracic Surg*, 1935, 4 352.

The author reviews forty-one cases of lobectomy for bronchiectasis in children, including five of his own. The children ranged in age from two and a half to thirteen years. The mortality was 34 per cent and practically the same whether the operation was performed in one or two stages.

As 50 per cent of adults with bronchiectasis trace the beginning of the disease to childhood, Bohrer believes that lobectomy during childhood will prevent many cases from becoming inoperable.

EARL O. LATIMER, M.D.

Dubrow, J. L.: Congenital Cyst of the Lung. *Radiology*, 1935, 24 480.

Dubrow reviews the literature on congenital cyst of the lung and reports five cases of his own.

He states that there are both symptomatic and asymptomatic cysts of the lung. The symptomatic cysts are of the following four types: (1) those producing symptoms and signs suggesting valvular pneumothorax with the mechanism of obstructive emphysema, (2) cystic degeneration of a whole lung suggesting pulmonary atelectasis, (3) fetal bronchiectasis simulating the acquired form, and (4) congenital retention cysts secondarily infected and associated with acute or subacute pulmonary disease. The asymptomatic cysts are solitary or multiple cysts with an open bronchial connection. These may be discovered accidentally.

Dubrow's first case was that of a white man forty-two years old who had a congenital cyst of the right lung and chronic bronchitis of moderate degree. The second was that of a negro man fifty-three years old who had a congenital air cyst of the right lung with chronic bronchitis of moderate degree and arterial hypertension. The third was that of a white man forty-two years old in whom an asymptomatic congenital cyst of the lung was discovered in the course of examination for symptoms referred to the genito-urinary tract. The fourth case was that of a man with a congenital asymptomatic cyst of the left lung and chronic pulmonary tuberculosis of the apex of the right lung, and the fifth case that of a white man thirty-eight years old who was suffering from congenital bronchiectasis with an atelectatic effect.

J. DANIEL WILLEYS, M.D.

Nicotra, A.: Anatomicoroentgenological Characteristics of Congenital Cystic Lung (Rilevi anatomico-radiologici sul polmone cistico congenito) *Radiol med*, 1935, 22 238.

"Congenital cystic lung" is the common name for a peculiar areolar structure of the lung with the char-

acteristics of a congenital lesion. The term "cystic" is probably incorrect as the air containing spaces are not true cysts. The cavities usually contain air and are in communication with the bronchi. Though such a connection is not demonstrated invariably, it must exist as such air filled cavities could not persist unless air were supplied and replenished constantly to make up for the air removed by absorption. It is possible that the proper X ray technique combined with bronchography may demonstrate it.

Clinically, the diagnosis of such cysts is based principally on X ray examination although frequently important clinical symptoms are present. There may be asymmetry of the thorax with under development of the thorax on one side and over development on the other. The anteroposterior diameter of the chest is usually abnormal. Symptoms of tuberculosis are absent. The sputum is constantly negative. In spite of the cavities demonstrated the patient remains in good health.

The author reviews the cases recorded in the literature and reports three cases. The X ray findings in his cases were fairly constant. They showed persistence of pulmonary tissue similar to the fetal structure especially in the apical and subapical regions, agenesis of a rich alveolar system with its replacement by a rudimentary system of aerated cavities and agenesis of the ramifying bronchial system in both the direct trunks and collaterals and its replacement by rudimentary canal like formations free of ramifications. All of these changes seem to indicate retardation of the development of the arborizations of the bronchoalveolar apparatus. They may involve an entire lung or only parts of it. The organs of the media timum may or may not be displaced. The author calls the portions of the lung involved respiratory units as he claims they are functioning entities. He states that the congenital cystic lung is not composed simply of pulmonary cysts. There is an almost necessary concomitant hypodevelopment of the bronchial tree which is certainly different from the normal. Instead of ramifying the straight under developed bronchus passes directly into a cystic space. The author shows this change by diagrams. Although the changes in the bronchial tree are less evident in the roentgenograms than the cysts because they are masked by the cysts, careful study of the chest from many angles allows their identification.

In the differential diagnosis of congenital cystic lung it is necessary to rule out bronchiectasis. Bronchiectasis is usually limited to a small segment or numerous small segments of one or more bronchi, many of the bronchial ramifications and alveoli remain intact and normal. In congenital cystic lung the entire unit is involved. Bronchiectasis involves individual bronchi. At times the grapelike form of bronchiectasis is very difficult to differentiate. However its differentiation is often rendered possible by a study of roentgenograms made from different angles while opaque media is being injected and after emptying.

Subpleural cysts and other cysts which have their origin exclusively in the alveolar tissue are usually differentiated with ease. A Louis Ross M.D.

Archibald E. A Consideration of the Dangers of Lobectomy. *J Thoracic Surg* 1935 4 335

The author classifies cases of bronchiectasis into three groups. In Group 1 he places those with clinical symptoms suggesting only an aggravated form of chronic bronchitis with later catarrhal infection. In these cases lipiodol filling shows a cylindrical form of dilatation without evidence of bronchiectatic abscess. There is no X ray evidence of an old unresolved pneumonitis. The patients suffer only from cough with the expectoration of a considerable amount of sputum which is either mucoid or mucopurulent. As a rule they have only one or two spells of coughing in a period of twenty-four hours. They never have fever.

In Group 3 are the cases with chronic sepsis, frequent attacks of fever, dyspnea on exertion, frequent spells of coughing abundant and often foul sputum and clubbing of the fingers. On X ray examination an old unresolved pneumonitis is found. Lipiodol injection demonstrates cylindrical fusiform and sacular dilatations and frequently small and large abscesses.

In Group 2 are the cases intermediate between those in Groups 1 and 3. They are the cases of patients who though seriously distressed by cough and a fair amount of sputum with at times a foul odor, do not suffer from sepsis. The absence of sepsis is due to good drainage through the bronchi. X ray examination after lipiodol injection often reveals cylindrical fusiform and even small sacular dilatations, but shows no clearly defined abscesses. Patients in this condition are neither good nor poor surgical risks.

The author is of the opinion that in cases of Group 1 lobectomy should not be considered until aggravation of the condition brings them into Group 2. A frequent cause of increased severity of the disease is an intercurrent pneumonitis. In cases of Group 2 lobectomy is indicated. In cases belonging to Group 3 the mortality of lobectomy is high but the risk of the operation is justified as medical management is hopeless.

In cases of relatively mild infection such as the more favorable cases in Group 2 artificial pneumothorax, phrenicectomy and occasionally, Hebb's graded thoracoplasty may be considered.

The dangers of lobectomy are infection, acute disturbances of the respiratory function and complications due to the operation. The most important complications are hemorrhage from wounding of the pedicle vessels, air embolism and mediastinal emphysema.

Infections responsible for death include localized and total empyema, septicemia developing from an empyema or infection of the stump, virulent infection of the chest wall, contralateral pneumonitis with or without pneumonitis of the side operated upon.

and infection of the stump leading to secondary hemorrhage.

As empyema of some degree occurs in nearly every case in which lobectomy is done, it is advisable to cause the formation of adhesions of the upper lobe before undertaking the operation. This serves the double purpose of stabilizing the mediastinum and preventing total empyema. To reduce the chance of pneumonitis of the other lung the author blocks the main bronchus of the involved lobe with a balloon. Before the operation he empties the affected lung as much as possible by postural drainage. Adequate drainage prevents death from tension pneumothorax. Archibald attempts to prevent the formation of a bronchial fistula by carbolic acid and the application of silver wire ligatures to the stump.

The merits of the one-stage and two-stage lobectomy are discussed at length. The author prefers the one-stage operation except for the more septic cases of Group 3. EARL O. LATIMER, M.D.

Wangensteen, O. H.: Observations on the Treatment of Empyema, with Special Reference to Drainage and Expansion of the Lung. *J Thoracic Surg*, 1935, 4: 399

The aims of surgery in empyema are the establishment of drainage and re-expansion of the lung.

In the establishment of drainage in the presence of a thin exudate, a displaceable mediastinum, or a non-adherent lung, it is necessary to preserve the chest wall intact. Needle aspiration or drainage through an intercostal catheter, water-sealed or connected with some other type of closed system, will prevent serious changes in the intrapleural pressure but may not afford adequate drainage. Open drainage by rib resection should be reserved for cases in which the exudate may be evacuated when the effects of open pneumothorax will no longer be manifested on the other lung. Important desiderata in the establishment of open drainage are a stable mediastinum and a lung adherent to the chest wall that will not be collapsed by the admission of atmospheric pressure to the thorax.

Following the establishment of open drainage, re-expansion of the lung and obliteration of the empyema cavity are favored by (1) the contractile force exerted by adhesions which form between the visceral and parietal pleura, where the lung lies closest to the chest wall, (2) the stretching effect of forced inspiration and blowing against resistance upon the exudate or adhesions lying on the visceral pleura which tend to inhibit the expansion of the lung, and (3) the maintenance of subatmospheric pressure. JACOB M. MORA, M.D.

HEART AND PERICARDIUM

Schur, M.: Problems of Adhesive Pericarditis (Probleme der adhaesiven Perikarditis). *Ergebn d inn Med u Kinderh*, 1934, 47: 548.

The author reviews the pathological anatomy and physiology and the symptoms of adhesive peri-

carditis on the basis of the literature and his own material of seventeen cases. He states that the three chief causes of the condition are tuberculosis, "rheumatism," and septic general infections. The differentiation of an accretio from a concretio or the differentiation of two varieties (Volhard) he considers impracticable. He believes that the most important causes of the congestive type (ascites precox) are dynamic and mechanical factors leading to extracardial interference with the venous afflux, particularly in the hepatoportal angle, and that interference with the contractions of the heart muscle by the induration is responsible only secondarily. In disagreement with the view held by most surgeons, he believes that even when there are no apparent adhesions to the anterior thoracic wall the condition is essentially a disturbance of systole.

Myocardial disturbances may occur as complications of rheumatic conditions or as the sequelae of constriction of the heart by an adhesive process. Hydrothorax associated with the ascites is not indicative of special involvement of the left heart. When it is associated with muscular insufficiency of the right heart it is to be regarded as due to a mechanical disturbance of the outflow from the superior vena cava and the azygos and hemi-azygos veins.

In contrast to Volhard's cases, Schur's cases frequently have shown enlargement of the heart, especially when the condition was due to rheumatism. The factors determining enlargement of the heart are the condition of the heart before the onset of the pericarditis, the amount of pericarditic exudate, the time at which the exudate becomes organized, and the ability of the heart to react to the systolic disturbance with dilatation. However, the enlargement of the heart is slight in comparison with the severity of the symptoms of circulatory insufficiency. Disturbances of rhythm were found in one-third of the author's cases, and the electrocardiogram usually showed very low waves. On change of position a change in the electrical axis failed to occur because of the immobility of the heart.

Failure of operative liberation of the heart from the adhesions is due to insufficient correction of the extracardial stasis in the vena cava. The theory that irreparable damage is done to the liver is incorrect as this organ possesses an enormous regenerative power and the unsuccessful results of operation are due to mechanical, not toxic, injuries.

(H. W. PASSLER) LEO A. JUNKKE, M.D.

MISCELLANEOUS

Barsony, T.: Hiatus Hernias (Ueber Hiatus-Brueche). *Orvosi Szemle*, 1934, 24: 137.

Hiatus hernias are diaphragmatic hernias in which the hernial opening is formed by the esophageal hiatus.

As a rule, when the subject is in the recumbent position, a portion of food swallowed remains lodged in the esophagus above the diaphragm especially during inspiration when the intra-abdominal pres-

acteristics of a congenital lesion. The term "cystic" is probably incorrect as the air containing spaces are not true cysts. The cavities usually contain air and are in communication with the bronchi. Though such a connection is not demonstrated invariably it must exist as such air filled cavities could not persist unless air were supplied and replenished constantly to make up for the air removed by absorption. It is possible that the proper X ray technique combined with bronchography may demonstrate it.

Clinically, the diagnosis of such cysts is based principally on X ray examination although frequently important clinical symptoms are present. There may be asymmetry of the thorax with under development of the thorax on one side and over development on the other. The anteroposterior diameter of the chest is usually abnormal. Symptoms of tuberculosis are absent. The sputum is constantly negative. In spite of the cavities demonstrated the patient remains in good health.

The author reviews the cases recorded in the literature and reports three cases. The X ray findings in his cases were fairly constant. They showed persistence of pulmonary tissue similar to the fetal structure, especially in the apical and subapical regions, agenesis of a rich alveolar system with its replacement by a rudimentary system of aerated cavities and agenesis of the ramifying bronchial system in both the direct trunks and collaterals and its replacement by rudimentary canal like formations free of ramifications. All of these changes seem to indicate retardation of the development of the arborizations of the broncho-alveolar apparatus. They may involve an entire lung or only parts of it. The organs of the mediastinum may or may not be displaced. The author calls the portions of the lung involved respiratory units as he claims they are functioning entities. He states that the congenital cystic lung is not composed simply of pulmonary cysts. There is an almost necessary concomitant hypodevelopment of the bronchial tree which is certainly different from the normal. Instead of ramifying the straight under developed bronchus passes directly into a cystic space. The author shows this change by diagrams. Although the changes in the bronchial tree are less evident in the roentgenograms than the cysts because they are masked by the cysts, careful study of the chest from many angles allows their identification.

In the differential diagnosis of congenital cystic lung it is necessary to rule out bronchiectasis. Bronchiectasis is usually limited to a small segment or numerous small segments of one or more bronchi many of the bronchial ramifications and alveoli remaining intact and normal. In congenital cystic lung the entire unit is involved. Bronchiectasis involves individual bronchi. At times the grapelike form of bronchiectasis is very difficult to differentiate. However its differentiation is often rendered possible by a study of roentgenograms made from different angles while opaque media is being injected and after emptying.

Subpleural cysts and other cysts which have the origin exclusively in the alveolar tissue are usually differentiated with ease. A Louis Ross M.D.

Archibald F. A Consideration of the Dangers of Lobectomy. *J Thoracic Surg* 1935 4 335

The author classifies cases of bronchiectasis into three groups. In Group 1 he places those with clinical symptoms suggesting only an aggravated form of chronic bronchitis with later catarrhal infection. In these cases lipiodol filling shows a cylindrical form of dilatation without evidence of bronchiectatic abscess. There is no X ray evidence of an old unresolved pneumonitis. The patients suffer only from cough with the expectoration of a considerable amount of sputum which is either mucoid or mucopurulent. As a rule they have only one or two spells of coughing in a period of twenty-four hours. They never have fever.

In Group 3 are the cases with chronic sepsis frequent attacks of fever dyspnea on exertion frequent spells of coughing abundant and often foul sputum, and clubbing of the fingers. On X ray examination an old unresolved pneumonitis is found. Lipiodol injection demonstrates cylindrical fusiform and saccular dilatations and frequently small and large abscesses.

In Group 2 are the cases intermediate between those in Groups 1 and 3. They are the cases of patients who though seriously distressed by cough and a fair amount of sputum with at times a foul odor do not suffer from sepsis. The absence of sepsis is due to good drainage through the bronchi. X ray examination after lipiodol injection often reveals cylindrical fusiform and even small saccular dilatations but shows no clearly defined abscesses. Patients in this condition are neither good nor poor surgical risks.

The author is of the opinion that in cases of Group 1 lobectomy should not be considered until aggravation of the condition brings them into Group 3. A frequent cause of increased severity of the disease is an intercurrent pneumonitis. In cases of Group 1, lobectomy is indicated. In cases belonging to Group 3 the mortality of lobectomy is high but the risk of the operation is justified as medical management is hopeless.

In cases of relatively mild infection, such as the more favorable cases in Group 2, artificial pneumothorax phrenicectomy and occasionally, if a bluish graded thoracoplasty may be considered.

The dangers of lobectomy are infection acute disturbances of the respiratory function, and complications due to the operation. The most important complications are hemorrhage from wounding of the pedicle vessels, air embolism and mediastinal emphysema.

Infections responsible for death include localized and total empyemas, septicemia developing from an empyema or infection of the stump, virulent infection of the chest wall, contralateral pneumonitis with or without pneumonitis of the side operated upon,

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Salto, M. J.: A Contribution to the Study of Two Rare Varieties of Hernia—Para-Inguinal and Peri-Inguinal Hernia (Contribution à l'étude de deux variétés rares de hernie—la hernie para- et peri-inguinale) *Lyon chir*, 1935, 32 129

A para-inguinal hernia is a hernia which emerges from the abdomen through a congenital abnormal opening in the vicinity of the inguinal ring and traverses the abdominal wall parallel with, but completely separated from, the inguinal canal. A peri-inguinal hernia is a hernia which emerges from the abdomen near the internal inguinal ring and traverses the abdominal musculature independently of the inguinal canal, not necessarily parallel with it and not through a preformed canal. The para-inguinal hernia must therefore be regarded as a congenital hernia and the peri-inguinal hernia as a variety of lateral ventral hernia.

Both of these types of hernia are rare, only five cases of the para-inguinal variety and twelve cases of the peri-inguinal variety having been reported in the literature. In several of the recorded cases there was some controversy as to whether the hernia was para-inguinal or peri-inguinal.

Following a review of ten of the cases of peri-inguinal hernia reported in the literature, the author gives detailed reports of four cases of peri-inguinal hernia and one case of para-inguinal hernia which he treated himself. He draws the following conclusions:

These varieties of inguinal hernia are very rare. They cannot be diagnosed prior to operation, and their diagnosis at operation requires careful examination. As a rule they are small. Closure of the orifice is usually sufficient, but reconstruction of the inguinal canal is advisable in addition.

MAY M. ZINNINGER, M.D.

GASTRO-INTESTINAL TRACT

Rivers, A. B., and Dry, T. J.: The Differentiation of Benign and Malignant Gastric Ulcers. The Unreliability of Diagnostic Criteria. *Arch Surg*, 1935, 30 702

Gastric ulcer is much more commonly benign than malignant, but there are no infallible signs, except the findings of microscopic investigation, which prove that a given lesion is benign. The authors report case histories demonstrating that practically all signs and symptoms may at times fail to indicate the nature of a lesion, and give the reasons why the symptoms of benign and malignant ulcers may be identical.

Because of these facts it appears that unless contra-indications to operation are present, it is

usually safer to treat gastric ulcers surgically and to use non-surgical methods of treatment only when it is possible to keep the patient under close observation for a prolonged period of time.

Bloomfield, A. L.: Early Cancerous Changes in Peptic Ulcer. *J Am M. Ass*, 1935, 104. 1197.

The discovery that an apparently benign gastric ulcer is malignant is made often enough to justify the most strenuous efforts to avert such a tragedy. Most writers on the subject assert or imply that carelessness of the physician is largely responsible; that something could be done early to prevent the late and hopeless cancer stages. It is assumed that careful study of patients with ulcers which appear benign will make it possible to detect early malignant changes and effect a cure by radical surgery. The purpose of this article is to determine the validity of this contention.

The most extreme suggestion that has been made is that every one over forty years of age should be subjected to bi-yearly X-ray study of the stomach for the detection of early lesions. Practically, however, such a routine is impossible because persons who feel well or have only minor digestive disturbances cannot be persuaded to follow such a plan. Moreover, few, if any, radiologists would have the temerity to advise exploration on the strength of dubious X-ray appearances even if they roused considerable suspicion of trouble.

A long history of indigestion is supposed to indicate a benign lesion whereas a recent onset of symptoms is supposed to be more characteristic of malignant disease. There is doubtless some truth in this generalization of "the long and short history," but in many ulcer-cancer cases there is a long history of indigestion often with periods of freedom and it is impossible to determine the exact time at which cancer supervenes. The age and sex of the patient are of little help in the solution of this problem. Alvarez and McCarty have called attention to the generalization that large ulcers are more likely to be malignant than small ones. However, there are so many exceptions that in the individual case it is unwise to base the treatment on such dicta.

The study of gastric secretion supports the view that there are two types of cancers of the stomach which differ in their pathogenesis: (1) cancers arising in stomachs the site of chronic gastritis with anacidity, and (2) cancers arising in peptic ulcer. The former is the usual variety, constituting from two-thirds to three-fourths of the total number. In the diagnosis of cancer *ex ulcere* the most important factor is the presence of acid.

The author reviews ninety-two cases of cancer of the stomach showing that the two types of cancer

can be differentiated with considerable certainty on the basis of the presence or absence of free acid in the gastric secretion. He emphasizes, however, that studies of gastric secretion fail to help in the solution of the practical problem of deciding when a benign ulcer becomes malignant since the acid values remain unchanged or are only slightly decreased when malignancy develops.

The failure of ulcer symptoms to respond to therapy has been suggested as a basis for the suspicion of malignancy. This also is of little practical value. Of the cases of cancerous ulcers reviewed, symptomatic relief was obtained in five for periods of from five to eight months before rapid decline occurred. Conversely, however, it is common to observe cases of benign ulcer so refractory to medical therapy that surgical therapy ultimately becomes necessary for this reason alone. A decrease in the size of the lesion under medical therapy is also unreliable as a sign of the nature of the condition. Many benign ulcers fail to show any change in size on roentgen examination over long periods of time and in two of the reviewed cases of malignancy the ulcer seemed smaller at the time the cancer was extending through the wall of the stomach.

Therefore none of the criteria proposed for the detection of early malignant change in a peptic ulcer are reliable in the individual case. One is forced to the conclusion that even after the most careful study and observation it is impossible to be sure whether early cancerous changes have occurred in an apparently benign peptic ulcer. If it is admitted that such changes cannot be detected clinically with a useful degree of certainty, it is impossible to differentiate between benign and malignant ulcer until late and obvious evidences of cancer are present. The question to be answered is whether or not all gastric ulcers should be resected as soon as they are recognized in order to prevent the development of cancer. The decision must depend upon whether the hazard of cancerous changes in ulcer is greater than the risk of operation. According to the majority of opinions expressed in the literature not more than 5 per cent of apparently benign peptic ulcers are malignant. The mortality of gastric resection is at least 10 per cent even when the operation is performed by skilled surgeons and is probably twice as high when operation performed by surgeons in general are included. Moreover even this operation may be followed by recurrences of the ulcer and post-operative complications such as adhesions, obstruction, and persistent indigestion. It must be borne in mind also that operation does not always save the patient from cancer even when only the earliest malignant changes are present at the time it is performed. Of sixty-eight cases reported by the Mayo Clinic in which the malignancy could be demonstrated only by the microscopic death presumably from recurrence occurred in thirty-six (52.7 per cent).

Therefore the conclusion may be drawn that it is clinically impossible to determine early changes in

apparently benign ulcers because the criteria while statistically valid are subject to such variation that they cannot be depended upon in the individual case even when large size of the lesion is strongly indicative of cancer. The only practical attitude to adopt is to regard small apparently innocent gastric ulcers as benign until there is considerable evidence to the contrary and to accept the fact that a certain number of tragedies will be unavoidable. Such tragedies will occur in the future as they have in the past not necessarily because physicians are careless, but because they are helpless in the face of an insoluble problem of diagnosis. SANCHEZ J. FUCHSLOW M.D.

Sworn D. R. and Menton, J. Adenoma of the Duodenum. *Brit J Surg* 1935 22 671

The authors report a case of adenoma of the duodenum. The patient's history and the findings of examination suggested only the presence of a gastric ulcer. At operation the diagnosis of gastric ulcer was confirmed and the duodenal tumor was discovered unexpectedly. Partial gastrectomy was performed.

In a review of the literature the authors found that in a considerable number of cases of benign duodenal tumor the neoplasm was associated with pathological lesions elsewhere in the gastro-intestinal tract such as multiple polyps, carcinoma of the lithiasis, and ulcers. The number of cases in which a duodenal tumor was the only lesion found has been so small that there is doubt whether such tumors have a characteristic syndrome. Symptoms if present are usually due to the associated lesions. The most common associated lesion is a peptic ulcer. Epigastric discomfort, pain of a colicky nature, nausea and vomiting are therefore not infrequent. Attacks of diarrhea have been reported. Melena or the presence of occult blood in the stools appears to be the most constant feature of benign cancer. Since these manifestations suggest peptic ulcer or carcinoma, the test meal and X-ray examination are important guides. X-ray examination if successful usually demonstrates a filling defect of the sacculization type. Golden says that in the presence of a filling defect in the duodenal bulb suggesting a non-malignant tumor a six-hour gastric retention may be considered evidence of a growth arising in the stomach and playing into the duodenum and the absence of such retention is indicative of a growth arising in the duodenum itself.

Adenomas of the duodenum are usually small and rarely cause intestinal obstruction. Because of the relatively fixed position of the duodenum intussusception seldom results.

When the associated lesion is a peptic ulcer radical removal of the ulcer and tumor is advisable. There is no recorded case of the development of malignancy in a simple duodenal tumor. When the lesion is polypoid transduodenal resection should be sufficient. In the case of a sessile tumor or a tumor in which the possibility of carcinoma or sarcoma

cannot be excluded, the duodenum should be resected and an end-to-end anastomosis performed.

The article is followed by an extensive bibliography

ARTHUR S W TOUROFF, M D

Raiford, T. S : Carcinomas of the Large Bowel
I The Colon. II The Rectum. *Ann Surg*,
1935, 101 863, 1042

This article summarizes the data obtained in a study of the 192 cases of cancer of the colon and 319 cases of cancer of the rectum that have been admitted to the Johns Hopkins Hospital, Baltimore, since 1889. The growths were found most frequently in the descending and sigmoid colon, nearly as frequently in the cecum, and much less frequently in the transverse colon and the flexures. Male patients outnumbered female patients by a little more than 2 to 1. None of the patients was in the first decade of life and only 2 were in the second decade.

Tumors of the transverse colon showed a surprising tendency to invade the stomach. Such invasion had occurred in fully half of the cases.

Metastasis to the liver from cecal tumors was comparatively rare, but such metastasis from tumors of the transverse and descending colon was common. Involvement of the skeletal system was rare.

In cases of tumor of the right colon surgery offers an excellent chance for cure even when the diagnosis is made late. The operative technique for growths in the right colon is well standardized. Simple resection with a good margin of normal bowel followed by end-to-end, lateral, or end-to-side anastomosis is the easiest procedure, but has the disadvantages of occasional incomplete removal and necessitating anastomosis in thin-walled gut where the blood supply is not abundant. Resection of the entire right colon, while free from these disadvantages, is a more serious procedure. Division of the ileum from 20 to 30 cm above the ileocecal valve with wide dissection of the ascending and proximal transverse colon has been found most practicable. Ileostomy some distance above the anastomosis is of great value to prevent undue tension on the suture line.

The operative procedures employed for cancer of the hepatic flexure could not be evaluated as the number of cases was too small.

The surgical procedures used most frequently for the removal of growths in the transverse colon were simple resection and right colectomy. When adequate mobilization was obtained the lateral isoperistaltic method of anastomosis gave excellent results. End-to-end anastomosis when approximation was difficult proved relatively safe from the standpoint of immediate mortality, but was followed by a high incidence of recurrence.

In 3 of the 4 cases of carcinoma of the splenic flexure in which extirpation was possible, a simple 1-stage resection was performed. End-to-end anastomosis was done in 2 cases and lateral anastomosis in 1 case. The Mikulicz operation is also adapted to resection of this part of the bowel, but its use must be limited to cases in which the tumor

with its adjacent bowel can be withdrawn through the abdominal incision. It has the advantage that it may be performed in 3 stages—2 of which can be performed under local anesthesia—to lower the risk of postoperative shock.

The operative treatment of cancer of the descending and sigmoid colon was influenced by the location and accessibility of the growth. When the cancer was high in the descending colon, simple resection with end-to-end or lateral anastomosis was performed most frequently. The results of the Parker-Kerr aseptic anastomosis were not favorable. Too often, in this procedure, the more important factors of mobilization and preservation of the blood supply are neglected for strict asepsis. In the cases reviewed, more satisfactory results were obtained by the open end-to-end union.

In the entire series of cases the operative mortality was greater following lateral union than following end-to-end union. This fact was attributed largely to leakage from the blind ends. Recurrence of the growth was more than twice as frequent after end-to-end anastomosis than after lateral anastomosis. This is attributed to the fact that large invasive growths necessitate wide resection which renders approximation for lateral union difficult and therefore renders end-to-end anastomosis obligatory. In the cases reviewed the advantages of preliminary colostomy were outweighed by a mortality of 44 per cent. In cases of advanced disease appendicectomy and ileostomy are not justified unless the obstruction is acute. In operable cases such palliative operations should be performed only if the surgeon believes they will have a favorable effect on the postoperative course.

Irradiation has been used in the treatment of cancer of the bowel so rarely that it was impossible to determine its value. However, it has relieved the symptoms and prolonged life in hopelessly inoperable cases and has reduced large adherent tumors to an operable stage.

In the reviewed cases of cancer of the rectum in which the growth was high enough to be mobilized through an abdominal incision, the cancer was removed by abdominal resection.

The combined abdominoperineal resection of rectal cancer has the disadvantage of necessitating a permanent colostomy. The wide perineal defect is slow to heal as primary closure is impossible. Radical resection is followed by a higher mortality than less radical procedures, but is more efficient from the standpoint of ultimate cure. In the cases reviewed the ratio of patients presumably well after the 1-stage operation to those presumably well after the 2-stage operation for similar tumors was about 3:1. The 2-stage operation was less satisfactory also because of a slightly higher operative mortality.

Sacral resection is not always possible with preservation of the sphincters and a low mortality. When, in the reviewed cases, a sacral anus resulted, it was far less satisfactory than an inguinal colostomy. In the majority of the cases sphincter control was

unsatisfactory Abdominal exploration was impossible In a few cases the sacral operation was performed with satisfactory results for the palliative removal of hopeless irreparable growths In a few in which it was performed after previous exploration of the abdomen the patients lived for several years with normal bowel function

Few growths located in the lower rectum and anus could be removed by the perineal route The operations performed for cancers at these sites were more or less modifications of the Whitehead method The disadvantages of the perineal operation are similar to those of the sacral method Sphincter control is seldom satisfactory, perirectal glands are not always removed, and no opportunity is offered for exploration of the abdominal cavity

Fifty three per cent of the patients entering the hospital with carcinoma of the rectum were operable Of those subjected to resection 22.2 per cent died from the effects of the operation Of those surviving the operation 60.9 per cent died of recurrence and 39.1 per cent were presumably cured

In many cases of carcinoma of the rectum the symptoms can be alleviated by irradiation This is true particularly in cases of epithelioma of the anus

JOSEPH K. VASIT M.D.

Haggard W. D. Appendicitis *Am J Surg* 1935 28 71

This report is based on 4344 operations for appendicitis and its complications The mortality was 3.30 per cent In 1650 cases of acute unruptured, subacute, recurrent and chronic appendicitis there were 52 deaths a mortality of 0.72 per cent In 672 cases the condition was acute and in 195 the operation was performed in the first twenty four hour One hundred and thirteen operations were performed for chronic appendicitis In 3,9 cases with rupture and a more or less localized abscess there were 19 deaths a mortality of 5 per cent The average duration of the symptoms was five and one third days In 186 cases of generalized spreading peritonitis with gangrene and perforation there were 46 deaths, a mortality of 4.7 per cent In these, the average period before operation was two and one fourth days In 34 the pre operative period was more than three and a half days and in 1 case of secondary peritonitis from a partially walled off abscess it was seventeen days

The annual number of deaths from appendicitis in the United States is estimated at 20,000 The mortality from acute appendicitis is highest in Nashville, Tennessee Salt Lake City Utah and Oak Park Illinois Of 17 cities it was lowest in Altoona Pennsylvania, where it was 2.3 per cent The high mortality in Nashville is due to purgation and delay of hospitalization

It seems that the surgical management of appendicitis has not been improved as it should have been Wilkie says that the mortality of the condition is as high as it was twenty years ago in spite of the increase in the number of capable surgeons the

greater appreciation on the part of the public of the danger of appendicitis extension of hospital facilities and great improvement in transportation service To reduce the mortality it is necessary to operate in the early hours of the disease even when the attack is regarded as mild Efforts should be made to teach families to avoid purgation in cases of abdominal pain The emergency in appendicitis is usually in the first few hours

HARRY W. FINE M.D.

Seifert E. A Review of Statistics on Appendicitis for Two Decades (Übersicht über 2 Jahrzehnte einhundert Appendicitisfälle) *Deutsche Zeitschrift für Chirurgie*, 1934 244 1-6

The statistics reviewed by the author show that in 1350 appendectomies performed during the years 1911 to 1920 inclusive the mortality was 6.8 per cent while in 763 appendectomies performed during the years 1922 to 1931, inclusive it was only 3.5 per cent The improvement was due primarily to the earlier resort to medical aid In the second decade 44 per cent of the patients were admitted to the hospital during the first two days of the disease, while in the first decade most of them were admitted on the third day

The increase in the incidence of appendicitis has not occurred only in Germany In Sweden as reported by Nyström as well as in Wurzburg the results of treatment have become less favorable during the past few years While in Upsala the change has been noted especially in the cases of children and aged persons Seifert has been unable to confirm the observation in his material He finds that the results of the treatment of abscesses is considerably poorer In 1930 the mortality in cases of abscess was increased 3 fold (10 per cent) In the years 1932 to 1933 inclusive the deaths from abscess again increased while the total mortality showed a decrease due to the successful treatment of peritonitis A careful review of the fatal cases led the author to conclude that the treatment of appendiceal abscess is extremely difficult and should never be undertaken by inexperienced surgeons As in none of the fatal cases was operation delayed until the tumor had disappeared the clinic has established a rule that in cases in which the abscess is unquestionably localized the fever is moderate the pain is slight and the general condition and bowel activity are good the treatment must be conservative Cases in which the pain and fever persist in spite of conservative management for from two to three days are operated upon without removing the appendix care being taken to protect the free peritoneal cavity in order to prevent general peritonitis

(SEIFERT) IFO W. ZIMMERMAN M.D.

Salvin A. A. The Surgical Treatment of Rectal Prolapse *Ann Surg* 1935 101 10-1

The author describes the anatomical relations of the rectum and discusses the etiology of prolapse He states that while it would seem impossible for

the normally placed and supported rectum to prolapse, there is evidence that prolonged wasting diseases may reduce the size and power of the fascial supports and render them functionally inefficient. The constitutional weakness of infancy and of old age enfeebles the rectal muscles just as it enfeebles the muscles in other parts of the body. It is more probable, however, that rectal prolapse is due to a congenital insufficiency. With otherwise favorable conditions, an extra long mesorectum or mesosigmoid would certainly tend to permit such prolapse. The abnormal depth of the cul-de-sac of Douglas prevents the abrupt angulation of the rectum, rendering it subject to undue overhead weight and pressure. This is thought by many to contribute to prolapse. Among the exciting causes of prolapse, the author cites constipation with its attendant straining at stool. Less frequent exciting factors may be strains from heavy lifting, rectal stricture, and rectal newgrowths such as polyps.

The operative methods used both in the past and at present to correct rectal prolapse are reviewed. They are of five types, namely: those which reduce the size of the anal opening and the lower end of the rectal tube itself, those strengthening the natural supports of the rectum, those directed especially toward the natural fixation apparatus of the rectum, those excising the prolapsed portion of the rectum, and those obliterating the cul-de-sac of Douglas.

The author reports a case of prolapse of the rectum in a woman fifty-eight years old who had been operated on twice unsuccessfully. At the third operation the author entered the abdomen through a left paramedian incision extending from the symphysis pubis to the level of the umbilicus. The uterus was elevated and fixed to the anterior abdominal wall. The recto-uterine peritoneal reflection was incised transversely, and two lateral longitudinal incisions were made through the rectal serosa into the mesorectum. The rectum was dissected from the vaginal septum and from the sacrum excavation, and its perineal and sacral flexures were mobilized. The rectum was attached to the left lateral posterior aspect of the ventrofixed uterus and to the anterior abdominal wall with linen sutures. The successful result of the operation was still maintained after a period of two and a half years.

HERBERT F. THURSTON, M.D.

Gordon-Watson, Sir C., and Dodd, H.: *Observations on Fistula in Ano in Relation to the Perianal Intramuscular Glands: With Reports on Three Cases.* *Brit J Surg*, 1935, 22 703

The perianal intramuscular glands are lined with transitional epithelium from the epithelium of the anal canal at the anorectal junction. The structure of the glands is that of either convoluted mucous glands or sweat glands. The glands grow outward into loose tissue within the internal sphincter and into the limiting annulus of connective tissue which separates the internal sphincter above from the

external sphincter below. Before the muscularis mucosae is developed the glands may arrive at and penetrate the internal sphincter and the external longitudinal coat and in some cases may spread to the superficial surface of the levator ani and the ischioanal fossa, to the true pelvis, or into the substance of the levator ani muscle.

The authors believe that as a rule these glands lose connection with the anal canal, but that, in some instances, as first pointed out by Hermann and Desfosses, the duct remains patent and they become infected from the anal canal. An abscess in one of these glands might easily lead to the formation of a perianal or ischioanal abscess and subsequent fistula. The development of a perirectal abscess and fistula may be due to an infection of one of these glands that has penetrated to the deep surface of the levator ani muscle.

The presence of these deep glands makes it important to search for a rectal opening when dealing with a supposed blind external fistula. When such a tract is overlooked the fistula will not be cured.

The authors believe that frequently these glands are not identified in the surgical removal of a chronic fistula because the tracts are not examined histologically or their histological identification is impossible because the condition has become chronic and the epithelium has been replaced by granulation tissue.

The authors report three cases in which an anal fistula was proved by histological examination to have had its origin in an infection of the perianal and intramuscular glands. **EARL O. LATIMER, M.D.**

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Brochner-Mortensen, K.: *The Bilirubin-Capacity Test as a Test of Liver Function (Ueber Bilirubinbelastung als Leberfunktionsprobe)*. *Acta med. Scand*, 1935, 85 1

To determine the amount of bilirubin in the blood serum the author used the photometric method recommended by Heilmeyer. After the subject had fasted for fourteen hours a specimen of blood was taken and 50 gm. of bilirubin dissolved in a 5 per cent solution of sodium carbonate at 80 degrees C. were injected. Three minutes after the injection another specimen of blood was withdrawn, and three hours later a final specimen was obtained. The amount of bilirubin excreted during the three-hour period was computed by taking the difference between the bilirubin content of the first and third specimens and expressing it in percentage of the difference between Specimens 1 and 2.

Preliminary tests showed that the bilirubin content of the plasma and serum is the same, that the upper limit of the normal in the serum is 1 mgm. per 100 c.c., and that the amount is not constant even in normal persons as it usually increases with fasting and decreases with the ingestion of food.

Tests were made on twenty-five normal persons, twenty-eight patients with a pathological condition

of the liver and thirteen patients in whom a pathological condition of the liver was merely suspected.

When the bilirubin test was compared with the galactose test the bromsulphalein test and determination of the content of quinine resisting lipase in the blood it was found to be apparently somewhat more delicate than the others and a satisfactory test for liver function. It is not applicable in cases of icterus with bilirubinuria. JOHN W. BRENNAN, M.D.

Zilocchi E. Studies of the Secretion of Bile in Cases of Drainage of the Biliary Tract (*Rierche sulla secrezione della bile nel drenaggio delle vie biliari*) *Arch ital di chir*, 1933, 37, 301

Following a discussion of the normal and pathological physiology of bile Zilocchi analyzes the composition and quantity of bile as affected by various physiological and pathological processes and then reports a study he made of the bile secretion of seven patients. In all of the latter the bile was deviated out of the intestine. One of the patients had angiocholitis with empyema of the gall bladder, one, hepatogenic jaundice, two, cholecystitis with stone, and three, obstruction of the bile passages by a stone in the bile duct. All had had various operations for bile drainage. In four the drainage was total and in three partial. The author collected the bile according to the method described by Berard and Vallet-Guy. He then determined its quantity, physical characteristics, content of mucus, content of bile pigment and in five cases its daily content of cholesterol. The clinical operative and laboratory findings in each case are reported in detail. The general findings and the author's conclusions are summarized as follows:

1. In the immediate postoperative period the bile secreted was very dark. It remained that color for five or six days. There then began a period of transition during which the characteristics of the bile gradually became more stable.

2. In the second period, the period of transition began the first variations in the daily secretion. These were slight in the cases of total derivation and more marked in those of partial derivation. They become progressively more marked as the bile assumed the characteristics of normal bile.

3. During the third period in cases of total derivation the bile secreted at night was somewhat more concentrated than the bile secreted during the day, which showed the characteristics of true bile. In the cases of partial derivation the bile secreted during the night had the character of biliary secretion while that secreted during the day was a clear fluid with the appearance of gall bladder secretion.

4. In the cases in which the determination could be made most accurately the quantity of bile secreted in twenty-four hours varied from 400 to 500 c.c. In all of the cases the quantity of bile secreted on the first day was less than that secreted on the succeeding days, a fact which must be attributed to the action of the anesthetic on the liver. The hourly variations in the quantity of biliary secretion showed

no appreciable rhythm. The maximum and the minimum amounts were found either during the day or during the night.

5. Investigation of the quantity of mucus in the bile showed very constant results. Determinations made under the most diverse conditions in the bile secreted during the first and subsequent days in bile removed by puncture of the gall bladder and in the secretion obtained by partial drainage showed that the quantity varied from 2 to 4 per cent. This observation supports the theory of Laufer that the greater density of the gall bladder bile is due to the presence of a pseudo-mucin which is not precipitated by acetic acid. Only in some cases in the immediate postoperative period was there found a quantity of mucus greater than the normal, sometimes amounting to 20 per cent. This was believed to be due to an inflammatory condition of the biliary tract.

6. The quantitative variations in the bile pigments corresponded to the variations in the color of the bile. In the immediate postoperative period the quantity of these pigments was high, especially during the first day, a fact due to the reduction in the secretion of bile and its consequent relative concentration in the first twenty-four hours. On the second day it rapidly decreased. Nevertheless it still remained high for five or six days. At the end of that time there began a new decrease, corresponding to the period of transition which terminated in minimal values. The considerable increase in the pigments in the immediate postoperative period depends upon (a) the increase in their formation due to the resorption of extravasated blood and the hemolysis caused by the anesthetic (b) the anesthetic itself which acts in two ways: decreasing the secretion of water and thereby causing a relative increase in concentration and decreasing the elimination of pigments by the liver cells (c) the elimination of pigments from the body in cases with jaundice, (d) the state of relative dehydration in the immediate postoperative period and (e) the functional condition of the liver. In the period of transition there began hourly variations in the secretion of pigments which persisted until the character of the bile became stable. In the cases of total derivation the variations were slight and consisted in an increase of the pigments during the night and a decrease during the day. In cases of partial derivation they were fundamentally the same but much more marked because in the secretion occurring during the day the pigments were very scarce, sometimes not measurable. These findings are explained by the action of the sphincter of Oddi which when closed caused the escape of bile from the drain and when open permitted its entrance into the intestine.

7. As regards the elimination of cholesterol the results obtained did not agree in the different cases. In two cases an increase in the cholesterol content of the bile was found in one a decrease and in two a normal quantity. The findings seemed to show that neither the ingestion of food nor starvation has an

influence upon it since, during starvation continued for several days after operation, a decrease was found in only one instance. Moreover, the fact that the cholesterol in the blood was increased in these cases suggested that cholesterol is not formed in the liver but is merely eliminated by it. The hourly variations in the cholesterol had no relation to the ingestion of food or fasting.

8 The observations made in the immediate post-operative period are indicative of a general disturbance of the secretory function of the liver due to the operation and the anesthetic.

9 This period was followed by a longer period of varying duration during which the hepatobiliary function was gradually re-established. In some cases it became entirely or nearly normal, whereas in others the improvement did not progress beyond a certain limit.

LEGERE T. LEDDY, M.D.

Stevenin, H., Bergeret, A., Albot, G., and Lelourdy, J.: Reticulosarcoma of the Spleen (*Le réticulosarcome de la rate*). *Presse méd.*, Par., 1935, 43: 382.

The authors state that reticulosarcoma of the spleen is rare. In the case they report, that of a man twenty-six years of age, the patient had noted loss of weight, weakness, and vague abdominal pains for a month before he entered the hospital. On examination, the spleen was found definitely enlarged and slightly tender. While the patient was

under observation in the hospital it increased in size rapidly. Splenectomy was followed by death in shock.

On section, the spleen appeared red or violet and presented numerous scattered tumor nodules and areas of necrosis of considerable size. Where their structure was well preserved, the tumor nodules showed numerous nuclei in a syncytial protoplasmic mass rather than a definite cellular structure. Most of the nuclei were regular and round or slightly elongated, and presented fine chromatin. Mitoses were numerous. The connective tissue of the tumor was particularly interesting. Staining by the Masson and Mallory methods showed no collagenous tissue in either the hyperplastic splenic tissue or the tumor nodules, whereas the method of Bielschowsky disclosed a very abundant reticulum, the fibers of which were large and regularly arranged in the splenic tissue, but in the tumor were more irregular, winding around between the nuclei. This structure of nuclei in a syncytium with the appearance of a "culture of nuclei" in a reticular connective tissue is characteristic also of undifferentiated reticulosarcoma in the bone marrow and lymph glands.

A splenic tumor with very similar histological characteristics which occurred in a child three years old was reported by Sabrazès and Dupérier in 1929. This was the only other apparently true reticulosarcoma of the spleen that the authors were able to find in the literature.

ALICE M. MEYERS

GYNECOLOGY

UTERUS

Labry R and Villar J The Therapeutic Indications and Technique in Chronic Cervicitis (Indications et techniques thérapeutiques des cervicites chroniques) *Gynec et obst* 1935 31 297

From the etiological, clinical and anatomical standpoints, there are many forms of chronic cervicitis. They may be accompanied by only very slight functional disturbances or by pain and local complications affecting the general health. Chronic cervicitis is a most persistent affliction. Especially persistent is gonorrheal endocervicitis. The principal sequelae to be considered are sterility and neoplastic degeneration. The diagnosis of chronic cervicitis may be difficult. Among other conditions, carcinoma in the early stages and syphilis of the cervix in all its stages must be ruled out before treatment is considered.

The multiplicity of the methods used in the treatment of chronic cervicitis indicates the inefficacy of many of them. However good results are obtainable with some. In discussing the various methods the authors group them as follows:

1. Simple gynecological procedures

2. Methods aiming at destruction of the cervical mucosa (chemical and physiotherapeutic procedures). Among these the use of Filhos caustic and diathermo-coagulation merit special attention because of their wide spread use at the present time.

3. Surgical methods

Before the choice of treatment is made it is necessary to determine the cause of the condition by carefully questioning the patient and her husband and to determine the anatomical and clinical type of the lesion by gynecological examination.

The most important prophylactic measures are the cure of gonorrhea before marriage education of the public regarding the dangers of local trauma to the cervix (the abuse of douches, the use of traumatizing cannulas, maneuvers to induce abortion) and systematic repair of obstetrical lacerations of the cervix after delivery. If the risk of later complications is to be avoided chronic cervicitis must be treated even if it causes no symptoms or disturbance of the general health. When adnexal or uterine lesions complicate the picture they may necessitate special therapeutic measures.

When chronic cervicitis is the sole lesion the choice of treatment should be based upon the anatomical and clinical form of the condition.

Chronic cervicitis associated with obstetrical lacerations of the cervix may be relieved by simple gynecological treatment or trachelorrhaphy.

Mild superficial chronic cervicitis recently acquired is benefited by simple gynecological procedures, cauterization and diathermy.

Despite its appearance exocervicitis with hypertrophy of the cervical lips and a polypoid mass is not the most serious type. Simple gynecological treatment, galvanocauterization or aspiration may bring about cure. Cure is obtained most quickly, however by the use of Filhos caustic and diathermo-coagulation.

Endocervicitis, particularly that of the gonorrheal type is always extremely resistant to treatment. Biological methods and local applications give only temporary relief. The most useful procedures are diathermo-coagulation and intracervical irrigations followed if not entirely successful by one application of Filhos caustic.

Very old lesions with tumor formation justify surgical removal of the cervix. In suspicious cases in older women total hysterectomy or radium therapy may be indicated.

Inflammation of the cervical stump after subtotal hysterectomy should be treated by surgical amputation or electrocoagulation.

The general condition should also be considered as women with chronic cervicitis are usually extremely nervous and anxious because of the chronicity of their ailment. HAROLD C MACA, M.D.

Mondor Lamy and Leroy Infarction and Gangrene of the Uterus (Infarctus et gangrene de l'utérus) *Presse méd. Par* 1935 43 37

Infarction of the uterus due to the intra uterine injection of soap solution to produce abortion was first described in 1921 von Geppert and Wemmer each reporting a case. Since that date about fifteen cases have been recorded. In the case reported by the authors the patient entered the hospital with abdominal symptoms several days after the attempt to induce abortion. At the time of her admission her color was livid, the pulse was weak and very rapid and the abdomen was cyanotic and presented some muscular rigidity. Vaginal examination which was difficult disclosed enlargement of the uterus and marked tenderness in the pouch of Douglas. At operation a small amount of blood was found in the peritoneal cavity and a large amount of fluid brown fluid in the pelvis. The uterus was enlarged and presented infarction and a small perforation. The tubes also showed infarction. Total hysterectomy was done but the patient died within twenty four hours.

In reviewing the reported cases of this type the authors found that the chief symptoms are pallor with more or less cyanosis, anxiety, superficial respiration and a weak and rapid pulse. There is little or no fever. In some cases ecchymotic areas on the abdomen or thighs have been noted. Abdominal palpation reveals some muscular rigidity and marked

tenderness, especially in the region of the uterus, which is enlarged. Vaginal examination discloses enlargement of the uterus out of proportion to the stage of the pregnancy, and tenderness. Anuria develops before death. An exact diagnosis is difficult. In most cases a diagnosis of postabortive peritonitis has been made. However, when more of these cases are recognized, the correct diagnosis may be suggested by the history and the symptoms. If operation is done, the diagnosis of infarction is indicated by the appearance of the uterus and adnexa and is confirmed by pathological examination.

The authors believe that the infarction is due primarily to the toxic or necrosing action of the soap solution. They state that secondary infection often complicates the clinical and pathological picture.

ALICE M. MYERS

Clason, S.: Myoma of the Uterus Before the Twentieth Year of Age (Uterusmyom bei Jugendlichen unter 20 Jahren). *Acta obst et gynec. Scand.*, 1935, 15 39

Clason reports in detail a case of myoma of the uterus in a girl sixteen years old. In a review of the literature he found that myoma of the uterus occurs before the age of twenty years in only 1 of 1,000 cases. He believes that the pyemic constitution may favor the formation of uterine myomas.

Nilsson, F.: The Prognosis and Treatment of Adenocarcinoma of the Cervix (Prognose und Behandlung der Kollumadenokarzinome). *Acta radiol.*, 1935, 16 217

The prognosis and therapy of primary adenocarcinoma of the cervix are discussed on the basis of eighty cases treated at Radiumhemmet in the period from 1916 to 1932 inclusive.

The prognosis is possibly somewhat more unfavorable than in squamous-cell carcinoma of the cervix. Adenocarcinoma growing exophytically, although more frequently operable, has a more unfavorable prognosis than other types of adenocarcinoma both as regards primary healing and five-year cure, and shows a relatively higher incidence of subsequent metastasis.

An analysis of the anatomical spread and the prognosis of cervical adenocarcinoma in the author's cases indicates that the treatment should be irradiation except in the exophytic form in which hysterectomy may possibly be more effective.

Richardson, E. H.: Hysterectomy for Carcinoma of the Corpus Uteri. *Am J Surg.*, 1935, 27 408

It is generally agreed that surgical ablation of the uterus, tubes, and ovaries is the preferred treatment for cancer of the body of the uterus. After years of study, the author devised a technique for abdominal complete hysterectomy which he has found eminently satisfactory. It tends to cause a marked reduction of the postoperative morbidity and mortality by eliminating excessive loss of blood, extensive mechanical insult to the tissues, and prolonged

operative manipulation. It is sound from both the anatomical and the surgical point of view, relatively simple and easy to carry out, and it can be performed in less time than is required for most panhysterectomies.

After mobilization of the bladder, separation of the pubocervical fascia, and division of the uterine vessels, all clamps are applied mesial to the proximal stumps of the uterine vessels. Thereby, the ureters are permitted to drop and to fall farther and farther away from the site of probable mechanical injury.

A carefully executed dissection which segregates the rich vascular network surrounding the lower cervix into a narrow zone adjacent to the broad ligaments prevents hemorrhage and troublesome oozing in this region.

The basal portions of the broad ligaments together with the uterosacral ligaments are sutured into the vagina as a safeguard against subsequent prolapse of the vaginal vault.

The details of the procedure are shown in illustrations by Broedel. GEORGE H. GARDNER, M.D.

ADNEXAL AND PERIUTERINE CONDITIONS

Gardiner, S. S.: Actinomycosis of the Fallopian Tubes, with the Report of a Case. *Australian & New Zealand J Surg.*, 1935, 4 279

During his twenty years of practice in Australia, the author has observed forty-six cases of actinomycosis in man. Twenty-nine of the patients were males and seventeen were females. The youngest was two and the oldest seventy-seven years of age. In twenty-six the infection was located in the cervicofacial region, and in nine the cutaneous and subcutaneous tissues were involved. In four, the infection was confined to the chest, in four, to the abdominal organs (exclusive of the genitalia), and in two, to the urinary tract. In one case, which is reported in this article, the intra-abdominal involvement was limited to the fallopian tubes.

In a review of the world literature the author found seventy-six cases of actinomycosis of the female genital organs. The ovaries were infected in fifty, but in only nine of the latter was there definite tubal infection. The ovaries are usually enlarged, sometimes to the size of a goose egg. They become adherent to adjacent structures and on section are found to be honeycombed with abscess pockets filled with varicolored pus. Only the presence of colonies of actinomycetes in the pus or in sections of the ovary permits a definite diagnosis of actinomycosis.

Tubal involvement leads to inflammatory or suppurative changes, thickening and distortion of the tubes, the formation of pus sacs, and sometimes such complete destruction that no remnant of the tubal structure can be found either at operation or at autopsy.

Only seven cases of uterine actinomycosis have been reported. The involvement may be restricted to either the corpus or the cervix. As a rule abscesses

result and their pus contains typical granules. In one case the uterus was prolapsed and the infection was limited to the cervix. In the six other cases the adnexa were infected.

Involvement of the parametrium and pelvic connective tissue has been found rather frequently in association with infection of the uterus and adnexa.

Only three cases of primary lesions of the external genitalia have been reported. In the few cases of secondary lesions on record the external genitalia were involved by the extension of an infection of the upper genitalia.

It is most generally believed that the most frequent source of infection of the female genitalia is the intestinal tract. Sometimes the history, clinical signs, observations at operation and autopsy findings point to the vagina and cervix as the probable sources.

The symptoms and course of actinomycotic infections of the female generative tract are not at all characteristic. The course may be acute, subacute, or chronic. In chronic cases there is often a history of previous acute or subacute attacks, abdominal pain, general poor health, fever, increasing weakness, anorexia, loss of weight and pallor. There may be all or symptoms due to involvement of a contiguous structure such as the bladder or rectum. Frequently one or more operations have been performed. Extension to the abdominal wall or to the inguinal, umbilical, or gluteal regions is not uncommon.

In acute and subacute infections it is usually impossible by either abdominal, vaginal or rectal examination to differentiate between actinomycosis and the lesions caused by almost any other organism. Operation is performed to obtain further evidence, but the final diagnosis requires cultural and histological studies.

As a rule the prognosis is poor. When a patient presents herself for treatment late in the disease and when the nature of the condition has not been recognized at previous operations, the prognosis is very unfavorable or hopeless because of extension of the infection to inaccessible tissues and vital organs.

The treatment includes medical, surgical and irradiation therapy.

Radical excision of the affected parts is desirable whenever the lesion is accessible. When it is extensive incision and drainage is helpful because among other reasons the affected parts can be exposed to the effects of oxygen. However surgery alone apparently does not cure genital actinomycosis; it must be supplemented by the oral administration of potassium iodide and X-ray irradiation of the affected areas.

Gradually increasing doses of potassium iodide, even up to 100 gr. three times daily, are advised. It is possible that the beneficial effect of the X-rays is due to the liberation of free nascent iodine rather than to the detrimental effect of the rays on the actinomycetes.

In the case of actinomycosis of the fallopian tubes reported by the author there was a complicating

right inguinal adenitis. The uterus was not removed. The ovaries and appendix were free from involvement. Seven years later the patient was entirely free from symptoms and apparently cured.

Gardiner believes that the infection of the tubes in this case was due to lymphatic extension from a primary source in the body of the uterus and cervix. The organism was filamentous, branched, clubbed, Gram positive and not acid fast. It grew slowly under microaerophilic conditions and in subcultures was eventually killed by exposure to the air.

In conclusion the author says that actinomycosis is not always a suppurative process. The infection may be conveyed by the lymphatics and the cervix may be the point of invasion and the site of primary infection from which the internal genitalia become involved later.

The physician must ever be actinomycosis conscious as it is usually impossible to differentiate clinically between actinomycosis and other infections. The paucity of reported cases of involvement of the female genitalia by actinomycosis suggests a failure to make routine microscopic examinations of pus found and tissues removed either at operation or autopsy.

GEORGE H. GARDNER, M.D.

Zondek B. Gonadotropic Stimulation Therapy (Zur Gonadotropen Stimulationstherapie). *Acta obst. et gynec. Scand.* 1935, 15, 1.

In earlier hormone therapy the attempt was made to correct a hormone deficiency by introducing the hormone into the organism at the site where it was utilized. In the future hormone therapy should become a stimulation therapy at the site where the hormone is produced. In prolan we possess a gonadotropic hormone the clinical effect of which can undoubtedly be further increased by the addition of its synergic factor, synprolan. Observations show that prolan has the ability to initiate function in an ovary which has not functioned previously, to stimulate an already functioning ovary, and to re-establish ovarian function after it has ceased. The clinical dose of prolan is 1,000 rat units.

Matteucci F. The Fate of the Isophenolized Ovary: Anatomical Studies and Functional Tests at Various Intervals After Isophenolization. (*Destino dell'ovaio isofenilizzato. Studio anatomico e saggio funzionale prodotti in periodi vari di tempo dall'isofenolizzazione per praticata.* *Atti del discepolo* 1935, 17, 511.)

The author reports studies of the anatomical and functional changes occurring in the ovary of the rabbit after isophenolization (chemical sympathectomy).

Isophenolization of the ovary is accomplished by injecting the ovarian fascia with isophenol (phenol and cresol) through a midline abdominal incision. Doppler has shown that phenol exerts a selective action on the sympathetic nervous system producing a complete sympatheticoctasy.

The procedure and results in the author's experiments were as follows:

Experiment 1 Several nearly mature rabbits weighing 1,000 gm. were subjected to isophenolization and histological studies of the excised ovaries were made a month later. The latter disclosed (1) thickening of the tunica albuginea, (2) scarcity of primordial follicles, (3) marked evidence of degenerative processes in many follicles, and (4) increased interstitial tissue.

Experiment 2 Rabbits of the same age and weight as those in the first experiment were subjected to isophenolization and histological studies of the ovaries were made after two, three, four, and six months. A progressive tendency toward restoration of the structure characteristic of the normal ovary was observed.

Experiment 3. Immature isophenolized rabbits of the same weight were treated with the urine of pregnant women from one month to six months after the chemical sympathectomy. In those treated with the urine one month after the sympathectomy, histological study of the ovaries forty-eight hours after injection of the urine showed: (1) thickening of the tunica albuginea, (2) a few hemorrhagic follicles, (3) hemorrhage less pronounced than in the normal ovary, (4) scanty proliferation of the granulosa cells, (5) cystic follicles without hemorrhage, and (6) increased interstitial tissue. In those treated with the urine two, three, and four months respectively after the sympathectomy the hormonal response of the ovary gradually increased. In those treated with the urine six months after the isophenolization the Aschheim-Zondek reaction was practically normal.

Experiment 4 Mature isophenolized rabbits were placed with males fifteen days, one month, two months, and four months respectively after the chemical sympathectomy. All had uneventful pregnancies and gave birth to normal offspring.

Experiment 5 Mature rabbits were isophenolized respectively in the first, second, third, and fourth week of pregnancy. All had uneventful pregnancies and gave birth to normal offspring.

The author draws the following conclusions:

1. Isophenolization causes a temporary change in the anatomical structure of the ovary and temporary involution and degeneration.

2. The ovary regains its normal structure about six months after the sympathectomy.

3. There is a slight attenuation of the functional activity of the ovary immediately after the isophenolization, but the gland retains its automaticity and functional activity even though the sympathetic nervous system is excluded.

GEORGE C. FINOLA, M.D.

MISCELLANEOUS

Gelst. S. H., and Spielman, F.: The Therapeutic Value of Antuitrin-S in Menometrorrhagia. *Am J Obst & Gynec*, 1935, 20: 518.

The authors state that for any therapeutic measure to be acceptable, exact and unquestioned results

must be obtainable with it in a high percentage of cases. When sex-hormone preparations show the definite and striking effects in the human being that are produced by insulin, adrenalin, and pituitrin, then and then only may they be regarded as acceptable for the physician's armamentarium.

Of fourteen cases of menometrorrhagia, exhibition of the prepituitary-like hormone in the form of Antuitrin-S was followed by improvement in only two.

A survey of the literature discloses such varied and conflicting opinions that the present widespread use of "endocrine" products in the treatment of menstrual disturbances seems to be unwarranted.

EDWARD L. CORNELL, M.D.

Kraus, L., and Simon, S.: The Influence of Hormones on the Function of the Uterine Musculature (Der Einfluss der Hormone auf die Funktion der Uterusmuskulatur) *Wien klin Wchenschr.*, 1934, 2: 1505.

The sensitivity of the uterine muscle to pituitrin was determined by noting the increase of tonus and peristalsis after the administration of 1 or 2 Voegtlin units of pituitrin. Both the intra-uterine bag method of Knaus and the method of filling the cavity of the uterus with iodipin were used, the increase of pressure being measured manometrically and controlled roentgenographically. First, the investigations of Knaus were repeated. As is well known, Knaus found a distinct pituitrin reaction of the uterine muscle in the postmenstruum. In the premenstruum during the period of function of the corpus luteum he observed no reaction. He believes the method is suitable for determining the presence of a corpus luteum on the basis of insensitivity of the uterine muscle to pituitrin.

In general, the authors were able to confirm Knaus' findings. In the majority of the thirty cases studied they found a much weaker reaction in the premenstruum than in the postmenstruum in one and the same uterus. Nevertheless, they obtained also results which deviated from this rule and noted that often only a slight hypoplasia or a chronic inflammation had a marked effect on the results. The manometric and roentgenographic examinations were found to present still greater sources of error. On the basis of the last method the authors agree with Schultze who, as is known, also disputed the results obtained by Knaus. On the other hand, the examination of pregnant uteri with the uterine bag method revealed a distinctly increased pituitrin reaction. In the menopause the uterus reacted less strongly to pituitrin, while in hyperhormonal amenorrhea it reacted more vigorously.

In order to ascertain more exactly the effect of various hormones on the sensitivity of the uterus to pituitrin, the hormones were administered to the patients a few hours before the examination. It was determined that the corpus luteum hormone, even when administered artificially, lowered the reaction of the uterine muscle. On the other hand, the follicle

hormone raised the sensitivity of the uterine muscle very considerably. The injection of thymus extract weakened the action of pituitrin. Prolan had no effect on the reaction. In studies of the effect of thyroid extract and adrenalin on menorrhagia the extracts were found to have no noteworthy influence on that condition.

The authors discuss also Knaus' theory regarding physiological sterility of women in the premenstruum and postmenstruum. They agree with Knaus that the chance of conception is greatest at the time of rupture of the follicle—that is, in the middle of the interval. On the other hand they state that it is incorrect to assume that conception cannot take place outside this period. Practical experience shows the possibility of conception during the premenstruum and the postmenstruum. They explain the sources of error which, in the method they used are sufficiently great to make it impossible to be absolutely certain of the presence of a corpus luteum. Therefore they do not feel justified in assuming that the corpus luteum has a functioning period of fourteen days' duration under all circumstances. They agree with Schroeder who believes that the duration of the function of the corpus luteum is variable. If this theory is correct, physiological sterility alone is not a sure basis for birth control by natural means.

(KRAL) FLORENCE ANNAN CARPENTER

Damm P. N. Investigations Regarding the Changes Taking Place in the Mucosa of the Uterus Following Overdosage with Follicular Hormone (Untersuchungen ueber Veranderungen in der Uterinschleimhaut bei Ueberdosierung mit Follikelhormon). *Zeitschrift fuer Geburtshilfe und Gynaekologie* 1935 115 58.

The author discusses the theory that glandular cystic hyperplasia of the uterine mucosa is due to persistence of the follicles with consequent overproduction of folliculin and underproduction of the lutein hormone. In the case of a castrated woman twenty-nine years old who was treated with 50,000 mouse units of folliculin changes corresponding to glandular cystic hyperplasia were brought about in the previously atrophic mucous membrane. This observation supports the theory cited and indicates that in the cases of women with deficient or inactive ovaries very large doses of folliculin should not be given without subsequent treatment with the lutein hormone.

Hamblien F. C. Results of the Pre-Operative Administration of an Extract of Pregnancy Urine. A Study of the Ovaries and of the Endometrium Following Such Administrations. *Gynecology* 1935 19 169.

Hamblien reports a study of the action of Antuitrin S on the ovaries and endometrium of eleven patients with endometrial hyperplasia. From 1,400 to 8,200 rat units were given over a period of from four to nine days. The patients presented neither gross inflammatory lesions nor tumors, either benign or malignant.

On examination of serial sections of the ovaries made from one to fourteen days after the last injection of the Antuitrin S, the primordial or early follicles showed no change. Antuitrin S acts primarily on maturing and mature follicles and increases the commonly observed degenerative changes. In the younger patients corpora lutea were apparently not produced by the injections while in the older patients they were produced thereby quite consistently. Hemorrhage into or about the follicles was not an important finding.

With one questionable exception endometrial changes were not produced but the specimens of endometrium were obtained rather soon—from the day of the last injection to five days after termination of the treatment. HENRY S. ACKER, JR., M.D.

Doan R. C. and Simpson W. M. The Elliott Treatment of Pelvic Inflammatory Disease. *Am. J. Surg.* 1935 5 78.

The authors review 101 cases of pelvic inflammatory disease treated with heat by the Elliott method during the course of a year.

Of 27 cases of chronic salpingitis good results were obtained in 17 (62 per cent), fair results in 7, and poor results in 3. In 2 of the 3 in which the results were poor the treatment was inadequate.

Of 15 patients with an acute exacerbation of chronic salpingitis 3 had a large pelvic abscess and in 2 of the latter the upper order of the abscess extended to the level of the umbilicus. The response to treatment by the Elliott method alone in these cases was particularly striking. Complete resolution occurred in all and good results were obtained in 80 per cent.

Of 10 cases of acute and subacute salpingitis the results were good in 60 per cent and fair in 30 per cent.

In all of 4 cases of cul de sac abscess the results were good.

Of 10 patients with persistent inflammation after previous pelvic surgery which required further treatment all were benefited by the Elliott treatment, the results being good in 50 per cent and fair in 50 per cent.

Of 11 patients treated for abortion infection 10 were cured and 1 died of septicemia due to the streptococcus hemolyticus. In the latter no evidence of inflammatory disease was found at autopsy on either gross or microscopic examination.

Four patients with postpartum infection who had had a temperature of 101 degrees F. or more for at least two days before the treatment was instituted presented good results.

Of 8 patients with chronic cervicitis and endocervicitis the results were satisfactory in 85 per cent.

In 4 cases of gonococcal infection in children the results were disappointing. The authors believe that the treatment effected a cure in only 1 case. In 2 of the 3 other cases injections of the toxin were followed by cure and in 1 by improvement.

One patient with intractable trichomonas vaginalis vaginitis responded promptly to the treatment, but received a severe burn involving practically the entire vaginal mucous membrane.

The results were best in the acute and subacute forms of pelvic infection. The decrease in the sedimentation rate and the clinical improvement seemed to parallel each other. Burns occurred in the course of the treatment in 12 cases, but were severe in only 2.

Of the entire series of cases, the results were good in 67 per cent, fair in 25 per cent, and poor in 8 per cent.

The authors believe that 9 out of 10 patients with pelvic inflammatory disease may be treated successfully by the Elliott method without recourse to surgery. In the majority of cases hospitalization is not necessary. The technique is simple but requires training.

HARRY W. FINE, M.D.

Kottmeier, H. L.: Changes Occurring in the Bones in Cases of Uterine and Ovarian Tumors (Knochenveränderungen bei malignen Uterus- und Ovarial-tumoren). *Acta radiol*, 1935, 16: 275.

After a brief review of the literature the author discusses cases of malignant tumor of the uterus and ovaries treated by irradiation in which a roentgen examination was made on account of suspected skeletal changes. From examinations at autopsy in a series of cases of uterine carcinoma treated by irradiation he concludes that skeletal metastases are more frequent in this condition than is indicated by earlier foreign statistics based for the most part on cases not treated by irradiation and are more common in cases of adenocarcinoma of the cervix than in cases of squamous-cell carcinoma.

For the differentiation of osteoporosis from metastases, structural pictures are necessary. The technique used at the Seraphimer Hospital, Stockholm, for roentgenography of the spine and pelvis is described. By the use of a relatively greater focal distance, longer exposure, lower tension, and the Lysholm gall-bladder diaphragm, it is possible to obtain good structural roentgenograms even in cases of marked osteoporosis. Areas of destruction produced by lymph-node metastases are to be looked for in the region of the sacro-iliac articulation and the greater sciatic notch.

Møller-Christensen, E.: On the Therapeutic Uses of Sex-Hormone Preparations. *Acta obst et gynec. Scand*, 1935, 15: 28.

The conditions in which the use of sex-hormone preparations is to be considered may be divided into the following three groups: (1) menstrual anomalies, (2) syndromes due to failure of ovarian function, and (3) miscellaneous conditions such as habitual abortion, miscarriage, and primary weakness of uterine contractions.

The author states that in his opinion the genesis and symptoms of the first and second groups may be explained physiologically; their causes are to be sought in disturbances of the secretion of ovarian hormones, frequently with disturbances of the quantitative relations of estrin and the corpus luteum hormone. The therapy indicated therefore consists simply in supplying the lacking hormone.

In conclusion he reports the most recent findings with regard to the effect of large doses of estrin in abortion, miscarriage, and primary weakness of the uterine contractions, and the effect of corpus luteum hormone in habitual abortion.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Bolaffi R. Histidinuria in Obstetrics and Gynecology. Its Use for the Early Diagnosis of Pregnancy. (*Sull'istidinuria nel campo os clin o ginecologico sua utilità azione per la diagnosi precoce della gravidanza*) *Riv Ital di ginec* 1935 17 480

Many methods advocated for the diagnosis of early pregnancy in the past thirty years have been abandoned because they were often unreliable and their technique was complicated. Kappeler and Adler recently introduced a biological method based on the appearance of histidine in the urine which they believe occurs only in pregnancy. This procedure is as follows:

To 25 c. cm. of a twenty-four hour specimen of urine is added a sufficient quantity of bromoacetic acid (1 per cent bromine in 33 per cent acetic acid) to produce a lemon yellow color. The mixture is then allowed to stand for ten minutes. At the end of that time from 2 to 5 c. cm. of a solution of ammonium carbonate of ammonia (2 parts of concentrated ammonia to 1 part of 10 per cent ammonium carbonate) are added. If histidine is present the color changes to a characteristic rose.

Of 300 pregnancies at various stages including 2 ectopic pregnancies, this test was found positive by Kappeler and Adler in 99.1 per cent. In all cases of gynecological conditions except a small number of genital tract malignancies it was negative. In the puerperium the histidinuria had disappeared by the end of the eighth day.

In the cases of 88 pregnant women Valle found the incidence of histidinuria to be 25 per cent in the first month of pregnancy, 50 per cent in the second month, and increasingly higher as term was approached.

Weiss, Furth and Herbert have frequently found histidinuria in cases of pulmonary tuberculosis.

The author's study was carried out on 173 women in various stages of pregnancy: 45 women in the puerperium, 18 newborn infants, 11 women with gynecological conditions, 10 patients with hepatic diseases and 21 individuals with no organic disease.

Of the pregnant women, 72.9 per cent showed a positive reaction. The incidence of a positive result in the first, second and third trimesters of pregnancy was 56.7, and 88.8 per cent respectively. Of 5 cases of abortion, the result was positive in 4 and negative in 1. In pregnancies complicated by cystitis with a marked febrile reaction it was intensely positive. Of 4 cases of ectopic pregnancy it was negative in 3 and only very slightly positive in 1.

In the puerperium the histidine disappeared from the urine on the eighth day.

Of the newborn infants all had a negative reaction.

Of the cases of gynecological diseases a positive result was obtained in 24 (33.8 per cent) and a negative result in 47. In the cases with elevation of the temperature the incidence of positive reactions was high. Of 15 women suffering from pyosalpingitis and pelvic peritonitis the test was positive in the cases of 6. Of 1 patient with genital malignancy (47.8 per cent) showed a positive result. In almost all of the case of benign neoplasms (cysts, polyps and fibromas) and gynecological conditions not associated with fever the test was negative.

Of the 24 normal persons 8 (33.3 per cent) showed a faintly positive reaction.

These findings prove that histidine may be excreted in the urine in small amounts by normal men and women and in appreciable amounts in many conditions not associated with pregnancy. The author concludes that the histidine method for the diagnosis of pregnancy is unreliable in the early months and has many disadvantages as compared with the Aschheim-Zondek and Friedman tests.

GEORGE C. FRANKLIN

Mollnengo L. Short Pregnancy (*La gravidanza breve*) *Ginecologia* 1935 115

Mollnengo reviews the problems of both prolonged and short pregnancies and stresses their biological and medicolegal aspects. He states that short pregnancy has received less attention than prolonged pregnancy because it has not been a subject of medicolegal discussion. It is of particular interest in countries which allow inquiry into paternity, hence European literature regarding it is almost entirely German and Austrian.

After reviewing the German cases Mollnengo reports a statistical study from the Turn Obstetrical Clinic on 10,000 pregnancies ending in the birth of a mature fetus. His purpose was to determine whether it would confirm the factors which obstetricians have recently claimed to be of importance in determining the duration of pregnancy. In addition to the usual criteria of fetal maturity he added the weight curve excluding infants which lost more than 300 gm. and those which had not regained their birth weight by the seventh day. He calculated the duration of pregnancy from the first day of the last menstrual period, excluding the cases in which this period was indefinite and irregular and accepting only those in which it was typical.

One hundred and forty-one (1.41 per cent) of the pregnancies were short (lasting less than two hundred and sixty days). The minimum duration was two hundred and twenty-three days (2.01 per cent of the cases). In 83 the duration was between two hundred and fifty-six and two hundred and sixty days. The data were analyzed in relation to

the mother's age, parity, genital function (uterovarian hormones), pelvic development, and general health, and the sex of the fetus.

Short pregnancy occurred most often in women between twenty-one and thirty years old, the age of maximum genital function, and in para-ii and para-iii. It was much more frequent in women of high uterovarian function. There was no special pathological condition connected with it, and no connection between pelvic development and the duration of the pregnancy. The weight of the fetus was greater than the average weight of babies born at term. More of the babies were males than females.

These findings do not agree in all particulars with those of other obstetricians, especially those who believe that there is normally a parallelism between the size of the mother's pelvis, the development of the fetus, and the duration of pregnancy. In Melnberger's opinion the rapidity of fetal development, a factor insufficiently considered, is the principal cause of variations in the duration of pregnancy. The causes of differences in the developmental rate are still obscure, but it is reasonable to believe that the predominant factor is the functional capacity of the mother's genital organs. This theory is supported by findings of the study reported in this article. Biological forces connected with natural selection may be involved in short pregnancies, the fetus being expelled early when it rapidly attains a development equal to coping with the environment of the outer world because a further stay and development in the uterus would be dangerous for both mother and child.

The article includes tables and is followed by a bibliography.

M. I. MORGAN, M.D.

Meagher, W. G.: When to Operate in Ruptured Ectopic Gestation. *Am J Obst & Gynec*, 1935, 29: 541.

Meagher reviews 247 cases of ruptured ectopic pregnancy. The diagnosis was not difficult, pain and bleeding occurred at some time in every case.

In 50 (32 per cent) of the cases the woman was in shock when she entered the hospital and operation was delayed. In all but 6 of these 50 cases the shock was combated successfully, and in 75 (41 per cent) was sufficiently relieved to permit the patient to withstand the added shock of operation.

The author believes that the total mortality of 3.2 per cent (8 deaths) might have been lower if transfusion had always been done as quickly as it is today. There is no evidence to show that it would have been lower if immediate operation had been performed. On the contrary, adherence to a policy of immediate operation would have increased the risk.

EDWARD L. CORNELL, M.D.

Dieckmann, W. J.: Renal Function in the Toxemias of Pregnancy. *Am J Obst & Gynec*, 1935, 29: 472.

Dieckmann states that approximately 8 per cent of the patients delivered in a maternity hospital

have toxemia. In normal pregnancy the means for the blood non protein nitrogen and urea nitrogen, which are 23.8 and 12.2 mg. per cent respectively, are below normal. The elimination of water by the kidney is delayed or decreased. The concentration of urea and sodium chloride in the urine is decreased, the mean maximum specific gravity of the urine being therefore 1.022. The mean for the urea concentration factor is 63.8 before and 71.5 per cent after delivery. This increase above the normal is caused by the reduction in the blood urea. The mean for the urea clearance is 102.3 per cent before, and 124.5 per cent after, delivery. Despite the decrease in the blood urea, the urea clearance is found to be apparently decreased in the last half of pregnancy when studied in individual cases.

Dieckmann's finding in the toxemias of pregnancy and the conclusions he draws from them are summarized as follows:

1. The means for the blood non-protein nitrogen and urea nitrogen are 30.6 and 14.5 mgm. per 100 ccm. respectively. In the absence of hypochloremia and oliguria, a non protein nitrogen of 40 mgm. per 100 ccm. or more, or a urea nitrogen of 20 mgm. per 100 ccm. or more should always suggest renal impairment. Women with kidney disease sufficient to cause nitrogen retention usually do not conceive. If they do conceive, death of the fetus or mother usually occurs early in the pregnancy.

2. The urinary excretion of water is even more markedly decreased than in normal pregnancy. The delay of water elimination may be due to an arteriolar spasm of the renal vessels which diminishes the glomerular filtrate or to increased reabsorption of water in the tubules. Lack of water in the blood stream (hemoconcentration) resulting from increased permeability of the capillary and cell walls due to the toxemia may also be a factor.

3. The concentration of urea and sodium chloride in the urine is still further decreased, the average specific gravity being therefore 1.018 before, and 1.020 after, delivery.

4. The mean for the urea concentration factor is slightly less than in the absence of pregnancy. It is approximately one half of the mean for the normal pregnant woman.

5. In the cases of women with toxemia, hypertension, or nephritis, the urea-clearance test is usually definitely decreased during the latter half of pregnancy. This impairment is caused by the reduction or delay in the elimination of water and the decrease in the concentration of urea in the urine.

6. A urea clearance after delivery which is persistently 50 per cent of the normal or less indicates renal impairment. This organic renal change may be the result of pre-eclampsia, eclampsia, nephrosclerosis, glomerulonephritis, or pyelonephritis.

7. Many women show considerable increases in the clearance over a period of from three to six months after delivery. The phenomenon may be explained by assuming a hypertrophy of the remaining kidney tissue or a slowly decreasing arte-

niolar spasm of the renal vessels permitting more filtration. Therefore renal functional tests should be performed weeks preferably months, after delivery.

8 The Addis count is of considerable value in differentiating the various types of toxemia of pregnancy.

9 Careful observations and repeated studies of the blood, urine, and renal function over a period of years in the cases of a large number of toxemic patients are essential for a proper classification.

EDWARD L. CORNELL, M.D.

Féry-Solal, E. The Edemas of Pregnancy. A Physiopathological Study (*Les œdèmes de la grossesse. Etude physiopathologique*). *Gynec et Obst* 1935 31 193.

From his studies the author concludes that the hormonal hyperactivity of pregnancy results in an alteration of the normal water metabolism. The functions of water metabolism are governed by a complex relationship between the brain stem and the hypophysis. Through its antidiuretic powers, the posterior lobe of the hypophysis retards the elimination of water. Water retention occurs when the water contains chlorides. When the chloride reserves are insufficient the hypophysis is able to mobilize the organic chlorides.

Excessive endocrine activity results in transitory or persistent states of edema without renal dysfunction. The mobilization of the water is generally accompanied by a correlative mobilization of chlorides. In modifying the mineral metabolism and the constituents of the plasma pregnancy creates a new physicochemical equilibrium which seems to be more the evidence than the cause of the edema.

HAROLD C. MACK, M.D.

Gueissaz, E. A Clinical Study of the Edemas of Pregnancy (*Etude clinique sur les œdèmes de la grossesse*). (*int. et obst.*, 1935 31 239).

The author discusses physiological edema and pathological edema of pregnancy. The former is due to the avidity of the organism and its special capacity for water retention. It is unrelated to cardiac or renal dysfunction. Pathological edema is excessive edema with or without other toxic symptoms (eclampsia, pre-eclampsia, nephropathy, hyperemesis, acute yellow atrophy).

In cases of albuminuria of pregnancy edema is the rule. It has no special characteristics in either extent or localization except that vulvar and palpebral edema are very common. Refractometric examination of the edema fluid shows no differences from physiological edema fluid.

Uncomplicated edema of pregnancy does not terminate in eclampsia. In 29 per cent of cases of edema hypertension is present and in the third it leads to eclampsia or eclampsism. The association of edema and albuminuria without hypertension is found in 4 per cent of cases of edema and does not appear to favor the development of eclampsia. In

29 per cent of cases albuminuria, hypertension and edema are combined and in a few this association leads to eclampsia or pre-eclampsia. It is rare for eclampsia to develop without edema. In some cases isolated and transitory vulvar and palpebral edema are warning signals of eclampsia.

The therapy of edema gives good results when it is begun early. In physiological edema a good result may be anticipated with considerable certainty. The best results are obtained with a low salt diet plus thyroid medication. In the severe edemas of pregnancy a more strict dietary and hygienic regime is necessary and thyroid medication should be more intensive. Interruption of the pregnancy is seldom indicated.

In pathological edema associated with nephropathy, pre-eclampsia or eclampsia, the therapeutic results are less sure. Hypertension is a particularly unfavorable factor. The treatment of the edema must be supplemented by other treatment such as lumbar puncture, venesection, renal decapsulation, or interruption of the pregnancy depending upon the associated symptoms. HAROLD C. MACK, M.D.

Berutti, E. A Contribution to the Knowledge of the Mielitis of Pregnancy (*Contributo alla conoscenza della mielite gravidica*). *Ginecologia* 1935 1 161.

Toxic organic lesions due strictly to pregnancy are rare. The most important is a subacute ascending myelitis of the disseminated transverse or spondylar types. In its different stages this condition produces the most varied and complex syndromes ranging from polyneuritis to myeloencephalitis. About forty undoubted cases have been reported, most of them in the German literature. Neuropathological studies are few and fragmentary, and none of them is recent.

On the basis of the reported cases Berutti discusses the historical development of the concept of the disease and the varieties. Clinical course, prognosis, pathology, differential diagnosis and treatment of the condition. He considers it due to a neuromyelotropic toxin carried by the blood and possibly of intestinal origin. Its development is favored by the increased permeability of the meninges in the second half of pregnancy or by a localized decrease of resistance in the spinal cord. Although its circumscribed location appears opposed to the hypothesis of a generalized toxic state its etiological relationship to pregnancy is demonstrated by the fact that it usually appears in the second half of pregnancy and progresses with the pregnancy, the immediate improvement after delivery, the occurrence of poliomyelitic syndromes in association with the gastrointestinal manifestations of the toxemia of pregnancy, the occasional recurrence of the condition in successive pregnancies, and the similarity of the lesions found in the capillary endothelium to those found in the central nervous system and the kidneys in eclampsia. Interruption of the pregnancy is strongly indicated.

in the rapidly ascending form and whenever there are symptoms of involvement of the vagus or the respiratory mechanism. In cases near term, accomplishment forced gives very good results because of the easy dilatation of the cervix and the anesthesia of the patient. The prognosis is to life or restitution of function varies according to the period of pregnancy in which the symptoms occur, the severity of the process, and the time of intervention. The prognosis is more unfavorable when the symptoms occur early than when they occur late.

Berotti reports in detail a case of myelitis of pregnancy in a primipara twenty-five years old. In the sixth month the patient had dyspnea and a feeling of constriction in the chest, and in the sixth month, tachycardia, paresthesias, and weakness and rigidity of the legs. By the eighth month a complete spastic paraplegia with a continuence of urine and anesthesia extending to the umbilicus had developed. The urinalysis, the Wassermann reaction of the blood and spinal fluid, and roentgenologic examination were negative. A normal child was extracted by version. The puerperium was characterized by immediate improvement. At the end of six months all subjective disturbance had disappeared, the tendon reflexes were increased only on the right, sensation was normal, and the general health was excellent.

The article has a bibliography.

M. F. MORSE, M.D.

Chabanier, H., Michon, L., Lobo-Onell, G., and Lelu, I. Post-Abortive Anuria with Spastic Phenomena. Decapsulation, Chlorine Replacement, Recovery. (*Annales postales de la Pharmacie*, 1935, 1, 100). *Presse M.*, Par., 1935, 41, 158.

The patient whose case is reported was first seen by one of the authors nine days after abortion with infection. The outstanding features at that time were persistent vomiting, fatigue, anemia, slight muscular twitchings of the face, hicough, and hemorrhagic gingivitis. Edema was absent. There was a history of rather recent oliguria becoming more marked until by the time the patient was seen by the authors the urinary output was only 60 c.c.m. in twenty-four hours. The oliguria was associated with albuminuria, an increase in the blood urea, a decrease in the plasma chlorides, and a fall in the alkali reserve. As the right kidney was palpably enlarged, decapsulation was decided upon. The kidney was found to be large and pale. The renal pelvis was normal. The capsule stripped off easily. Biopsy showed essentially an acute tubular nephritis with edema of the interstitial tissue.

After the operation about 30 gm. of salt were administered daily in the form of a hypertonic solution given intravenously in an isotonic glucose solution. This dosage was continued for six days until slight malleolar edema appeared. The amount of salt was then reduced. The result was striking. The urinary output rose to 140 c.c.m. the day following the opera-

tion and rapidly increased until it reached 7,000 c.c.m. on the sixth day. Under the influence of the diuretic the blood urea gradually became normal and the patient's general condition improved rapidly. The hemorrhagic gingivitis was treated with lemon juice. The spastic phenomena were found associated with a blood calcium of 5 mgm. per 100 c.c.m. This was treated success fully with calcium chloride and injections of parathormone.

Various aspects of the case are discussed in detail, especially the treatment. The changes in the acid-base equilibrium and the blood chlorides, and the lowering of the blood calcium are discussed from the theoretical standpoint. Phosphorus determinations are not reported.

The article is supplemented by several photographs.

NATHAN A. WORMER, M.D.

Robinson, A. L., Darnow, M. M., and Jeffcoate, F. S. A.: The Induction of Abortion and Labor by Means of Estrin. *Brit. M. J.*, 1935, 1, 74.

The authors believe that estrin is the most sensitizing factor of the human uterus, that it is impossible to overcome the inhibitory phase of the normal pregnant uterus by the injection of very large quantities of the non-stimulating factors, and that the hormone balance in normal pregnancy in the human being is not maintained simply by the relative quantities of progesterin and estrin. They confine to some feeling of relief in their inability to procure abortion by the administration of estrin because they are convinced that if this method were reliable it would undoubtedly lead to a great increase in the number of unnecessary inductions of labor and criminal abortions. Their clinical results have shown that the administration of estrin near term may or may not induce premature labor. Because of the uncertain interval (up to seven or eight days) that intervenes between the commencement of the treatment and the onset of expulsive contractions it is an especially unsatisfactory method for cases in which labor must be induced immediately. On the other hand it is the best method of evacuating the uterus in cases of missed abortion or intra-uterine death of the fetus. When correctly carried out it is successful in at least 80 per cent of cases and has the additional merit of being free from risk. While the patient is subjected to the discomfort of several intramuscular injections, she is free from the danger of uterine trauma, infection, and hemorrhage.

In conclusion the authors state that they have been led to hope that estrin will prove of value in primary uterine inertia as their results have shown that the response to estrin therapy is dramatic and this treatment entails no risk to either the mother or the child. Estrin is at present expensive, but the authors have so far made no attempt to determine how little or how much is required for therapeutic use. They believe it quite possible that the amount they have been using has been unnecessarily large.

ROLAND S. CLOW, M.D.

LABOR AND ITS COMPLICATIONS

Held E. Recording the Number of Pains in Spontaneous Delivery (La numération des douleurs dans les accouchements spontanés). *Gynéc et Obst* 1935 31 107

The author studied 55 obstetrical cases with reference to the number of pains required to accomplish delivery and the effect of the time of rupture of the membranes on delivery. He found that in the cases of primiparas with rupture of the membranes during or at the end of dilatation the average number of pains required for complete delivery was between 150 and 200, the average number required for dilatation, 150, and the average number required for expulsion, 75. In the cases of primiparas with premature rupture of the membranes the corresponding numbers were 250, 200 and 75. In the cases of multiparas with rupture of the membranes during or at the end of the dilatation, they were 100-150, 60-100, and 35, and in the cases of multiparas with premature rupture of the membranes they were 150-175, 150-175 and 35.

These figures are exceeded in only a small percentage of cases. When they are exceeded, complications are almost always present. Pains are not effective if they are spasmodic, irregular, too far apart, or very short and weak. If the presenting part is small or soft, an abnormally large number of pains is required. When the child is large or the pelvis is relatively small, an increase in the number of the contractions rather than an increase in their strength is required to bring about delivery. The force of the contractions plays only a secondary part if a certain rhythm and tone are maintained.

Labor is shorter if the membranes rupture when the cervix is dilated to the size of a 5 franc piece. The more prematurely the membranes rupture, the longer the labor. The weight of the child is not a decisive factor in acceleration of labor. Artificial rupture of the membranes solely for the purpose of accelerating labor is not justifiable. It may aggravate the condition if the delivery is complicated. Often the pains suddenly become more frequent, longer and stronger after artificial rupture of the membranes. There is no appreciable difference in the incidence of fever in the puerperium following premature rupture of the membranes and rupture during labor.

AUDREY LOSS MORRIS, M.D.

Wachensfeldt S. von. Studies of the Delivery of Multiparas. Studien ueber Entbindungen bei Mehrebaerend. *Acta obst et gynec Scand* 1935 15 Dopp 1

This statistical study based on the material of the clinic of Losen Moller in Lund, Sweden, for the years from 1911 to 1930 is the third of a series. The first of the series, made by Lundh (*Acta obst et gynec Scand* 1926 Vol 4) dealt with deliveries of primiparas and the second made by Lofquist (*Acta obst et gynec Scand* 1931 Vol 2) with premature deliveries. The author states that so far as

he is aware his material is the largest that has been studied in this manner to date, consisting of 11,970 deliveries exclusive of those of women with multiple pregnancies and those of women giving birth to infants weighing less than 2,500 gm. Previous abortions were included; a woman who had had an abortion, for example, being counted as a para. However, women with a history of abortion are placed in a separate group designated as the A or abortion group, whereas the others are placed in a group designated as the "N" or normal group.

The average duration of labor in the total number of cases was about ten hours. Lundh found that in the cases of primiparas it was fourteen hours. In the second and third deliveries it decreased to nine and five hundredths hours and in the successive deliveries it gradually increased. It showed no demonstrable relationship to the sex of the child. Except in the labors of the secundiparas of Group A which averaged sixteen hours, no noteworthy difference was found between the duration of the labors in the N and A groups. While the duration of labor seemed to be practically constant in the different age groups of the same parity, it was perhaps slightly greater in the higher age groups.

The author states that in evaluating statistics with regard to the different presentations at birth it is necessary to consider (1) the number of premature infants, (2) the size (weight and length) of the infants, (3) the number of multiple pregnancies, and (4) the parity of the mothers. In the material which he investigated, premature infants were probably excluded by the minimum weight limit of 2,500 gm. Also excluded were multiple pregnancies. He discusses the incidence of each presentation with relation to parity and the size of the child. The size of the child seemed to be of little importance in the presentation. However, infants in transverse presentations appeared to be somewhat lighter than those in head presentations. The rather constant lower weight of infants presenting by the breech was accounted for rather satisfactorily by the frequent and often considerable loss of meconium in cases of breech presentation.

The incidence of head presentation decreased and that of transverse presentation increased somewhat with successive deliveries, whereas the incidence of breech remained practically constant. In the cases of secundiparas the incidence of head presentation was 97.6 per cent, whereas in those of women who had had from 10 to 20 pregnancies it ranged from 95 to 96 per cent. The incidence of transverse presentation in the same groups was 7.0 and 1.8 per cent. Of the head presentations, frontal presentation and face presentations seemed to increase somewhat with successive deliveries, whereas occiput presentations decreased. These findings were about the same in the A and N groups.

The weight of the child increased with successive pregnancies. The increase was practically the same for both sexes. As a rule the male infant was about 100 gm heavier than the female infant. The average

weight of the infants was 3,658 gm. In the cases of women with the same parity there was no demonstrable relation between the weights of the infants and the ages of the mothers.

The incidence of the most important pathological conditions associated with pregnancy, labor, or the puerperium—placenta previa, hydramnios, coiling of the cord about the child's neck, placenta marginata and circumvallata, retention of the membranes, hyperemesis gravidarum, icterus, albuminuria, nephropathy, eclampsia, and eclampsism—showed an increase with successive pregnancies, and most of these conditions were somewhat more frequent in the A group than in the N group. The incidence of placenta previa was 0.30 per cent in mothers from sixteen to twenty-five years of age and 1.51 per cent in mothers between forty-one and fifty-two years of age, and increased from 0.45 per cent in the cases of secundiparas to 2.82 per cent in the cases of women who had had from 10 to 20 pregnancies. The incidence of eclampsia and eclampsism taken together was 0.96 per cent in the first of these age groups and 3.70 per cent in the second. In secundiparas it was 0.98 per cent, and in women who had had from 7 to 9 pregnancies it was 1.07 per cent.

The incidence of premature rupture of the membranes was 19.1 per cent in the total number of cases, 22.0 per cent in the A group and 18.5 per cent in the N group.

Of the women with a narrow pelvis, 43 were delivered by cesarean section before labor started. Of the remaining 104, premature rupture of the membranes occurred in only 18 (17.0 per cent). However, as the difference in the incidence of premature separation of the placenta in the entire material and in the cases of flat pelvis was only 2.1 per cent and the average figure for error is 3.7 per cent, no difference was proved. Consoli's claim regarding the influence of short cord on the incidence of premature rupture of the membranes was not confirmed.

The incidence of prolapse of the cord was 0.62 per cent in the total number of cases, 0.41 per cent in the cases of secundiparas and tertiparas, and 0.84 per cent in the cases of women who had had from 4 to 20 pregnancies. The increase with successive labors is to be attributed in part at least to the increase in transverse presentations. Prolapse of the hand beside the head occurred in only 8 cases, its incidence being therefore 0.07 per cent.

Rupture of the uterus occurred in 4 cases. Three of the women with this condition had had from 4 to 20 pregnancies.

Fever during labor was rare. No difference in its incidence in the A and N groups was demonstrable.

The incidence of operative interference during delivery decreased with successive labors. The incidence of forceps delivery in the cases of women who had had from 2 to 5 pregnancies was higher in the A group than the N group and was definitely higher in the cases of older women than in those of younger women of equal parity. The incidence of forceps delivery in the total number of labors was 1.72 per

cent. In 10,988 labors with occiput presentation the incidence of forceps delivery was 1.63 per cent, in 287 labors with forehead presentation, 6.97 per cent, and in 14 labors with brow presentation, 50 per cent.

The incidence of cesarean section in the entire material was 1.16 per cent. In 11.5 per cent of the cases in which this operation was done the indication was placenta previa. Habitual death of the fetus was the indication for 24 per cent of the cesarean sections in the A group and for 7 per cent of those in the N group.

The average duration of the placental stage was about ten minutes and practically the same in both the N and A groups.

Postpartum hemorrhage became more frequent with successive labors. The incidence of a loss of from 600 to 1,000 gm. of blood was 5.0 per cent in the total material and increased regularly with successive labors, while the incidence of a loss of more than 1,000 gm. was 2.2 per cent in the total material and remained fairly constant in successive deliveries. The frequency of postpartum hemorrhage was greater in the A group than in the N group. It seemed to have no relation to the age of the mothers. The incidence of Cr  d   expression and manual removal of the placenta increased with parity.

Puerperal infections showed a tendency to become less frequent with increasing parity. The incidence of the other puerperal diseases remained rather constant.

JOHN W. BRENNAN, M.D.

Croft, C. R.: Contraction Ring; Treatment by Amyl Nitrite, with Observations on the Pharmacological Action of Nitrite. *Proc. Roy. Soc. Med.*, Lond., 1935, 28: 481.

The author reviews briefly a group of cases in which a contraction ring which formed late in the second stage of labor was relaxed and delivery rendered possible by the inhalation of amyl nitrite. It is believed that this drug was first used for the control of a contraction ring in 1882 by Barnes. In the case of a woman with retention of the placenta following the use of ergot 3 drops were administered on a handkerchief immediately after the birth of the infant. After inhalation of the amyl nitrite it was possible to introduce the hand to remove the adherent placenta. In addition to cases reported in the literature, the author cites experimental evidence in support of the use of this drug in cases of contraction ring and discusses his own experience. He considers the administration of nitrites a safe and efficient method of treating contraction rings forming late in labor.

CARL H. DAVIS, M.D.

PUERPERIUM AND ITS COMPLICATIONS

Jones, J. L., and Barlow, O. W.: A Clinical Comparison of Various Ergot Preparations on the Postpartum Human Uterus. *Am. J. Obst. & Gynec.*, 1935, 29: 489.

The clinical efficiency of extracts of ergot as judged by the reaction of the postpartum uterus differs

significantly according to the method by which the extracts are administered. In relation to the speed of the reaction the order of the methods of administration is (1) rectal (2) intramuscular (3) oral. The maximal differences in time with the three methods range from seven and a half to twelve minutes. The order of the extracts and methods of their administration according to decreasing magnitude and duration of the response is (1) U S F fluid extract given (a) by rectum and (b) by mouth (2) B P liquid extract given by mouth and (3) ergot aseptic given intramuscularly. The difference of reaction efficiency between intramuscular and oral administration may be due to the dose. The intramuscular injection may be given at any time during the postpartum period. It does not cause nausea or vomiting but the chance of infection is always present and the patient is subjected to pain. The rectal administration of the fluid extract (diluted with from two to three volumes of water) produces optimal reactions and has the advantages of intramuscular injection and none of the disadvantages of either oral administration or intramuscular injection. Rectal administration appears to be the method of choice.

The maximal effects of the crude drug principles persist for from forty five to ninety minutes. After oral or rectal administration stimulation is apparent up to four hours. Responses to second doses within two hours are negligible. The intervals between doses should not be less than three or four hours. The B P liquid extract is approximately one half as effective as the U S F fluid extract.

Aging of the U S F fluid extract for eight months was found to result in a deterioration of approxi-

mately 85 per cent according to chemical tests for alkaloids but the decrease in the clinical efficiency of the extract during the same period of time did not exceed 50 per cent. After one year the alkaloidal tests of both the U S F and the B P extracts were negative, yet the alkaloid free solutions retained a clinical activity equivalent to from 15 to 25 per cent of their original potency.

Ergotamine tartrate (gynergen) and ergotamine ethanesulphonate produce changes in the postpartum uterus of the same character and order of magnitude. These principles administered hypodermically or intramuscularly are absorbed more slowly and when given in doses which do not cause undesirable side-effects such as nausea and vomiting, are distinctly less effective than the crude drugs administered by rectum, mouth or intramuscular injection.

Pituitrin given hypodermically in maximal doses results in a marked increase in the tonicity of the postpartum uterus within from three to six minutes. The effects gradually diminish from the early peak and disappear within from forty five to ninety minutes. Second doses are relatively ineffective if injected earlier than forty five minutes after the administration of initial dose. The postpartum uterine response to pituitrin is directly proportional to the dose.

Morphine is capable of causing a considerable reduction in the motility and tone of the postpartum uterus. The authors' observations suggest that caution is necessary in postpartum medication for pain because of the possibility of uterine relaxation and increased postpartum hemorrhage.

EDWARD L. CORSELL, M.D.

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Eisendrath, D. N.: The Clinical Importance of Congenital Hypoplasia. *J Urol*, 1935, 33 331

The author emphasizes that renal hypoplasia must not be confused with renal agenesis. Hypoplasia includes all degrees of faulty development of the fetal kidney ranging from a kidney which follows in every respect the normal fully developed kidney to the presence of only a mass of fat containing rudimentary renal parenchyma. In agenesis, there is complete absence of all traces, even microscopic, of the renal blastoma or anlage of the embryo. While in a certain number of cases of agenesis a ureteral orifice or even a ureter of variable length may be found, even in such cases the most careful examination fails to reveal fetal renal tissue. It must be borne in mind that the ureter and the collecting tubules differ in their embryonal origin from the structures that develop to form the remainder of the kidney.

The word "aplasia" signifies complete lack of formation of some structure, and unless confusion is to take place in the interpretation of these conditions, the lateral interpretation must be accepted.

Eisendrath reports three cases of hypoplasia.

The first case was that of a man thirty-five years of age who was admitted to the hospital in coma and died of uremia forty-eight hours later. Autopsy revealed an acute suppurative pyelonephritis of the right kidney due to blocking of the ureter by a calculus and marked hypoplasia of the left kidney which had rendered it unable to compensate for the blocking of the right kidney.

The second case was that of a man forty-five years of age who was seized with an attack of severe left renal colic and anuria and was relieved by ureteral catheterization. Further study failed to reveal the presence of a calculus. The findings of pyelography were those typical of renal hypoplasia.

The third case was that of a boy eleven years of age who had just been relieved of acute retention by meatotomy with the removal of a calculus which was firmly impacted near the external meatus. Six years previously this patient had had an operation for vesical calculus. Examination of the urine revealed a marked pyuria, and roentgen examination the presence of four large shadows in the course of the left ureter. Operation disclosed a greatly dilated ureter containing four calculi, and an extremely small kidney with a few small cysts and well-marked fetal lobulation. Nephro-ureterectomy was performed. The removed kidney measured 2 cm in width and 5 cm in length. It showed a diffuse increase of fibrous tissue and numerous dilated tubules. In some areas, a few hyalinized glomeruli

could be seen with fibrosis of the adjacent tissue and much infiltration with small round cells. The smaller arteries were thick walled. There was a marked round-cell infiltration in the submucous layer of the pelvis. The gross and microscopic pictures were typical of renal hypoplasia.

As a rule, hypoplastic kidneys are found in the renal regions, but occasionally are dystopic. At times section of the kidney shows division into a cortex and medulla as in the fully developed organ, the appearance being that of a kidney in miniature.

There are certain variations in the renal pelvis in hypoplasia which, very often, can be diagnosed by pyelographic examination. It is rare to find complete absence of the pelvis and calyces.

The ureter varies in length and may end in or near the hypoplastic kidney. The ureter and ureteral orifice may be normal.

Ectopic ureteral endings are rather common. The author found the ending in the seminal vesicle in eight cases, in the vas deferens in three, in the duct of Gaertner in two, and in the ejaculatory duct, the anterior vaginal wall, and the prostatic urethra in one case each.

The clinical aspects of renal hypoplasia are important because the hypoplastic organ fails to develop sufficient reserve power when the other kidney is removed or its function is greatly diminished by injury, disease, or blockage of the ureter.

Pathological conditions are often associated with renal hypoplasia. The most frequent are hydro-nephrosis, calculus formation, and infection.

The treatment indicated for renal hypoplasia is nephrectomy. The diagnosis is made by ureteropyelography and tests of renal function. In cases of uncomplicated hypoplasia in which there is sufficient normal parenchyma for the excretion of normal clear urine and the good excretion of dyes, difficulty may be experienced in estimating the reserve ability of the hypoplastic organ when the other kidney requires treatment.

ELMER HESS, M D

Counsellor, V. S., and Priestley, J. T.: The Present Conception of Renal Lithiasis. *J Am M Ass*, 1935, 104 1309

Many theories have been advanced as to the cause of renal stones, but none so far suggested appears to satisfy the requirements. The theory of infection sponsored chiefly by Rosenow and his co-workers has many adherents.

Hager and Magath isolated from the urine of patients afflicted with alkaline encrusted cystitis an organism closely related to the salmonella proteus ammoniae. A study of this bacillus showed that its chief function was to split urea into ammonia and carbonic acid. Its injection into the bladder of dogs

failed to cause any disturbance in the bladder until chemical cystitis had been produced by an irritating substance. After the production of a chemical cystitis chronic encrusted cystitis with an alkaline urine resulted. This bacterium is now regularly isolated from the urine of patients afflicted with alkaline encrusted cystitis and is regarded as a secondary invader favoring the precipitation of urinary salts. According to C. H. Mayo stagnation and infection are important factors in the formation of renal stones and the kidney is an organ of filtration which is constantly eliminating bacteria from the circulation. This hypothesis of infection he considers the only tenable one. He contends that the formation of stones requires the presence of bacteria of two types, one of which produces renal infection by the hematogenous route and the other of which may come from a local focus.

There is no doubt that stasis and infection are contributory causes in many cases of nephrolithiasis but the exact influence these factors exert is not clear.

Careful study of the experimental work of McCarrison on the formation of renal stones in rats and cattle in India and of his clinical observations on this disease in the various peoples of India leaves no doubt that there is some evidence of a relationship between a deficiency of Vitamin A and the formation of urinary calculi. McCarrison noted also that if Vitamin C was removed from the diet along with Vitamin A the influence on stone formation was greater and if earthy phosphates were added to the diet deficient in these vitamins the rate and degree of calculus formation was still further increased. The mechanism involved has not been determined but it is fairly clear that the serious injury sustained by the urinary epithelium in the presence of a deficiency of Vitamin A is an important factor. It is quite probable that the desquamated keratinized epithelium from the urinary tract may form the nidus around which stony material is deposited. The stones produced experimentally are nearly always of the calcium phosphate variety and are nearly always associated with infection.

Observations indicate that the prevention of the formation of calculi is dependent on protective colloids in the urine. When colloids are abnormally excessive, colloids may be unable to retain them in solution and the formation of calculi results. Calculi may be formed also if the protective power of the colloids is interfered with by the production of abnormal colloids as the result of metabolic disturbances or of inflammation produced by bacteria.

Recent studies of the parathyroid bodies have increased the probability that renal lithiasis is in some fashion related to disturbances of metabolism.

Dysfunction of the parathyroid bodies is now known to be definitely associated with a rather high incidence of renal lithiasis which is fundamentally the result of disturbances of calcium and phosphorus metabolism. It is not unlikely that urinary stones associated with the prolonged disability incident to

fractures, arthritis and other conditions may have a similar causation.

The indications and the type of operation for the removal of a single stone that is too large to pass spontaneously have been fairly well standardized. In the past nephrolithotomy was the operation of choice for the removal of a renal stone but today, except for a stone or stones situated just beneath the renal capsule or impacted high in one of the calyces, pelvolithotomy is the preferred procedure. This is true especially for the single stone that is situated in the renal pelvis. By careful manipulation, many single or multiple stones situated in the calyces can also be removed through an incision in the renal pelvis. Pelvionephrolithotomy is of distinct advantage when a stone is impacted in a calyx or has branches extending into one or more calyces. By introducing the finger through the pelvic incision, the stone or stones can be pushed toward the cortex, which not infrequently is scarred or somewhat thin over this region and by making a small incision through the cortex or using a pointed forceps as advocated by Judd and Scholl, the stones can be extracted quite easily.

The surgical procedure which is best for the removal of multiple stones cannot be stated dogmatically as the choice of procedure in a given case must be governed largely by clinical judgment. In the past decade there has been a decided tendency toward conservative surgical measures for renal stones. It is a simple procedure to remove a kidney for stone but much experience and several technical aids are required to remove all stones or stony fragments with preservation of the kidney. In the presence of extensive infection with great destruction of renal tissue, nephrectomy is the wisest procedure. This is true particularly if the other kidney is normal. Nephrectomy for single or multiple stones without infection is to be condemned.

In the past few years the authors have been able to remove stag horn stones from the kidney with successful results in most cases although in several of their cases the stones were bilateral no serious injury to the kidney, the renal pelvis or the ureter occurred and all fragments were removed. The parenchyma was retracted to the bifurcation of the calyces, as suggested by von Lichtenberg, and direct access to the calyces obtained through a V incision in the renal pelvis.

The surgical treatment of bilateral renal lithiasis is a problem requiring mature judgment and care.

Cabot has pointed out that in cases of renal infection and obstruction nephrostomy is of value as it establishes immediate drainage which is essential in these cases and it promotes elimination of infection.

It appears obvious that for the prevention of recurrence all calculi and stony fragments must be removed completely at operation. This may be accomplished only by routine fluoroscopic and roentgenographic examination at the time of operation. With these aids in association with a careful surgical technique to prevent undue trauma and bleeding

all of the stony fragments may be removed in practically every case

Although the exact part played by obstruction of the kidney in the formation of stones is not fully known, every effort should be made to provide free drainage of urine from the upper portion of the urinary tract following the removal of stones. Not infrequently, because of obstructing factors such as anomalous vessels, bands of fibrous tissue, and acute angulation of the ureter, obstruction may be discovered at the ureteropelvic juncture. This should be corrected, if possible, at the time of operation. The almost certain development or persistence of infection secondary to obstruction is well known.

At present, complete elimination of infection is one of the most important requirements for the prevention of subsequent stone formation. Various aids may be employed for the elimination of infection from the urinary tract.

Before any treatment against infection of the urinary tract can be planned intelligently, accurate information must be obtained regarding the type of the offending bacteria. This necessitates cultures from the pelvis of the kidney and from any stones that are removed.

Considerable has been written regarding various medicinal measures and the dietary treatment of infection in the urinary tract. According to the authors' experience, the best results are obtained by acidification of the urine with ammonium chloride or ammonium nitrate given in association with methenamine if the offending organism belongs to the bacillary group. Methenamine is most effective when the hydrogen-ion concentration of the urine is at least 5.4. If cultures reveal cocci, the non-specific use of neosarsphenamine is frequently efficacious. When measures of this type fail to produce the desired results, the production of ketosis by the use of the ketogenic diet will often be effective.

Various metabolic disorders may be fundamentally responsible for the formation of calculi. Their detection may be aided by a routine chemical analysis of removed calculi and examination of the urine for cystin and uric acid crystals.

After the removal of stones from the kidney, periodical examinations of the urinary tract are desirable. In many cases these may seem unnecessary and may be discontinued after several have been made. On the other hand, if the patient presents a tendency toward persistent or recurrent infection of the urinary tract or if he has impaired renal function or faulty drainage from the kidneys, the periodical examinations should be continued for a number of years.

Stevens, A. R.: *Bilateral Urinary Calculi, with Special Reference to Therapeutic Problems.* *J. Am. Med. Ass.*, 1935, 104: 1289.

The treatment of bilateral urinary calculi depends upon the size and location of the calculi, whether they obstruct renal function, and whether infection is present.

Back-pressure on the kidney can be relieved by passing a catheter beyond the obstructing calculus. This is a simple and harmless procedure which improves kidney function, reduces infection, and may perhaps lead to passage of the stone. In performing nephrostomy the author makes multiple small wounds instead of a single large wound and introduces a sufficient number of superficial sutures for hemostasis. He believes this technique reduces destruction of kidney tissue to the minimum.

In conclusion Stevens emphasizes that the aim of the surgeon should be to obtain the greatest ultimate improvement of renal function with the minimal risk.

J. SYDNEY RITTER, M.D.

Quinby, W. C., and Bright, E. F.: *Solitary Renal Cysts; Their Symptoms When Situated at the Upper Pole of the Right Kidney.* *J. Urol.*, 1935, 33: 201.

The authors discuss the classification, etiology, pathology, and symptoms of solitary renal cysts and report seven cases. In four of the latter the cysts were located in the upper pole of the right kidney. The authors report these cases in detail, analyzing their symptoms and the symptoms in thirty-two cases reported in the literature. Over half of the patients had non-radiating pain in the right upper quadrant of the abdomen under the costal margin. One-fourth complained of pain in the right side of the back. One-third had symptoms of cystitis, and one-third had chills and fever. About one-fourth had gross hematuria. In two-thirds of the cases physical examination was negative.

In conclusion the authors state that solitary cyst of the upper pole of the kidney must be taken into consideration in the differential diagnosis of the cause of pain in the right upper quadrant of the abdomen, especially when the findings of cholecystographic examination are normal. The most accurate means of diagnosing solitary renal cysts is pyelography.

FRANK M. COCHENS, M.D.

Ockerblad, N. F., Carlson, H. E., and Simon, J. F.: *The Effect of Morphine upon the Human Ureter.* *J. Urol.*, 1935, 33: 356.

In a review of the literature the authors found that the opinion most generally held regarding the action of morphine on the intact human ureter does not agree with the pharmacology of morphine which has been established in the research laboratory.

In a study of the effect of morphine by tracings according to Trattner's method which was made in the cases of twenty-four patients, it was found that the drug caused a marked increase in the ureteral tone and in the amplitude of the ureteral contractions. The effect was produced in from two to five minutes and persisted for three hours or longer. Atropine in doses of 1/100 gr invariably stopped the contractions of the morphine-stimulated ureter, producing a consequent loss of tone, but did not act strikingly or constantly when given alone.

ELMER HESS, M.D.

Rizzi R Ureterectasia Without Mechanical Obstruction Acalasia of the Ureteral Orifices (Ureterectasi senza ostracoli meccanici Acalasia degli sbocchi ureterali) *Arch ital di urol* 1935 15 95

Rizzi reports five cases of ureterectasia without mechanical obstruction of the urinary passages which he believes was due to congenital achalasia of the ureteral orifices. In two cases the ureteral dilatation was bilateral. In the three in which it was unilateral it was more advanced and occurred in younger person. As there are records of cases of ureterectasia in newborn infants the author believes the cause is a congenital dysfunction of the ureteral sphincter or the intramural portion of the ureter.

The treatment indicated varies according to the stage of the condition. Most cases are first observed in the advanced stages often with dilatation and atrophy of the involved kidney. When in such cases the function of the uninvolved kidney is normal, nephrectomy is advisable. In the milder forms complicated by infection repeated lavage of the pelvis of the kidney and the use of urinary antiseptics are indicated.

The author discusses various methods of overcoming the achalasia such as dilatation avulsion and fulguration of the ureteral orifice. All of these methods may lead to a vesico-ureteral regurgitation with danger of infection. Rizzi suggests although he has not performed it extravesical section of the musculature of the ureteral orifice without cutting of the mucosa.

PETER A. ROSE M.D.

BLADDER, URETHRA AND PENIS

Muschat M The Value of Cystometry *J Urol* 1935 33 366

Py means of an apparatus called a cystometer which was presented by Rose in 1916 water was run into the bladder and the changing pressures within were registered and plotted against the amount of filling. The characteristic curve thus obtained represents the response of the bladder musculature to a gradual stretching process and indicates the tonus and reserve strength of the detrusor mechanism.

According to present day knowledge regarding the musculature of the urinary bladder proper function of the bladder depends upon the normal coordination of three mechanisms: the lock, the opener and the expeller. The lock consists of the two sphincters the internal and the external. The opener is the trigone on the floor of the bladder. The expeller is the detrusor or the musculature of the bladder wall. Weakness of the sphincters will cause incontinence. Weakness of the trigone and weakness of the detrusor will cause first partial and later complete retention. Weakness of the sphincters and trigone can be determined best by use of the cystoscope whereas weakness of the detrusor can be determined best by the use of the Rose cystometer or a cystometer devised by the author. The latter consists of

an irrigating jar, a Wolfe bottle and a mercury manometer. A three way stopcock directs the water from the irrigating jar to the bladder by catheter or connects the bladder water column with the Wolfe bottle. This apparatus is easy to operate and can be easily sterilized.

When the detrusor muscle is weakened, lacking normal tonus it will not respond with normal pressure rates whereas when its tonus is greater than normal it will respond with greater than normal pressure rates. Clinically the response will show whether a given bladder condition is neurogenic or not.

With the exception of a few instances of paralysis of the sphincters, the detrusor is invariably involved in all neurogenic disturbances, its tone being lessened or increased depending upon whether the disturbance is paralytic or stimulative. Thus by recording the tonus of the detrusor it is possible to determine the character of the nerve changes controlling the muscle fibers of the bladder wall. The author cites a number of cases which show the great value of the cystometer in the study of these conditions.

Irritation of the sympathetic fibers is known to cause relaxation of the detrusor and contraction of the sphincter producing a large bladder with a tight sphincter while irritation of the parasympathetics causes contraction of the detrusor and relaxation of the sphincters. When the sympathetic fibers lose control the parasympathetics become dominant. The bladder is small and possibly incontinent. After destruction of the parasympathetics the action of the remaining sympathetics causes the bladder wall to become relaxed greatly increasing its capacity and hypertony of the sphincters causes retention of urine.

In the light of our present knowledge regarding the innervation of the bladder it is impossible to differentiate between an irritative lesion of one nervous system from a destructive process of the other nervous system. What we yet lack is a factor which will tell us whether we are dealing with an irritative or a destructive spinal lesion. Until such a factor is found localization of the nervous lesion must be left to the neurologist.

FREDERICK M.D.

Fruchaud H The Use of Irradiation in Cancers of the Bladder and the Prostate (De l'utilisation des radiations dans les cancers de la vésie et de la prostate) *J d urol med et chir* 1915 30 97

The use both of surgical and irradiation treatment for cancer of the urinary bladder and the prostate gland has yielded disappointing results. The author attempts to evaluate the two methods and determine their indications.

Cancers of the bladder are radiosensitive but the conditions under which irradiation can be employed are extremely unfavorable. In the application of external irradiation only one portal of entry is available and as the sensitivity of the skin and the tumor is too nearly the same adequate treatment

is impossible. Local irradiation is difficult to apply because of the mobility of the bladder, the thinness of its wall, and its proximity to the peritoneum and the pelvic cellular tissues. As radium needles cannot be placed about the tumor perpendicularly to the wall, only the surface of the tumor can be treated. However, radium has its uses. The technique of radium treatment is as follows:

The bladder is opened widely. When the tumor is located elsewhere than in the trigone, the needles are placed in and parallel with the wall and parallel with one another at intervals of from $\frac{1}{2}$ to 1 cm. They should extend beyond the limits of the tumor into healthy tissue. To prevent the bladder from contracting it is filled with gauze. When the tumor is situated in the trigone it is surrounded by the needles which are introduced vertically into the bladder wall. Filling the bladder with gauze is unnecessary. Depending upon the type of irradiation, the dose varies between 1 and 2 mc per square centimeter of area treated. A total dose of 15 mc is the minimum. It may be increased to 30 mc in tumors of the trigone.

As the action of the radium is purely local, the pelvis is irradiated with the X-rays through multiple skin areas. It is perhaps best to begin the treatment with X-ray irradiation in order to avoid the delay necessitated by the cystostomy.

X-ray and radium therapy being difficult to apply under conditions which permit them to be effective, operative treatment is to be preferred.

Most suitable for surgical removal are well-limited pedunculated cancers. The electric knife, electrocoagulation, or simple resection may be employed. Tumors back of the trigone are best treated by partial cystectomy of variable extent. When the tumor is anterior to the ureters, radium therapy is most effective and is to be preferred to surgery. Total cystectomy has too high a mortality to warrant its consideration. Tumors which have extended beyond the limits of the bladder can be treated only palliatively by electrocoagulation performed with the bladder open.

In cancer of the prostate the conditions are entirely different. The cancer is extremely radio-sensitive and the prostate is a fixed organ which is relatively accessible. However, the depth of the lesion places it beyond effective external irradiation. The conditions for local treatment are quite favorable, but as the action of radium is purely local, only well-limited lesions can be benefited. Radium is applied through a standard perineal incision. Needles containing the radium at two levels are placed along the lateral surfaces of the gland about 1 cm apart. The needles should be sufficiently long to extend from the summit to the base. The dose is from 20 to 30 mc. A retention catheter is sufficient to drain the bladder. The radium is supplemented by external radiotherapy of the pelvis. The results of this treatment are rendered mediocre by urinary retention which necessitates cystostomy in about half the cases, and by metastases to the pelvic lymph

nodes. However, a few lasting cures are obtained and radium gives far more satisfactory results than surgery.

Cancers which develop in an adenoma must be considered separately. They are usually discovered after removal of the adenoma and as a rule the patient remains well. Even when the adenoma is adherent because of what appears to be malignant infiltration its removal is advisable. The patient will be benefited at least by the re-establishment of normal micturition. ALBERT F. DE GROAT, M.D.

Hyman, A.: Suprapubic Cystotomy with Excision and Irradiation in the Treatment of Malignant Tumors of the Bladder. *Am. J. Surg.*, 1935, 28, 5

For the implantation of radon seeds in malignant bladder tumors Hyman prefers open operation to the closed method as it permits better visualization of the extent, character, and infiltration of the lesion.

The emptied bladder is exposed by a suprapubic incision. After the peritoneum is sponged upward the abdominal wall is widely retracted and the bladder well isolated with large moist pads. Between two blunt clamps the bladder is opened with an endotherm needle from the vault downward. Bladder retractors are placed in position for better visualization. After sections are removed with the endotherm needle the proliferating part is resected and the base coagulated.

Non-removable platinum seeds of radon with a strength of $2\frac{1}{2}$ mc are embedded through special rigid introducers 1 cm apart. The number of seeds required depends upon the size of the tumor. The introducers are allowed to remain in position until the first row is planted. The location of the tumor determines the depth of the seeds. The bladder is bathed with 50 per cent alcohol. The bladder pads are changed and fresh instruments are used for the closure. Drainage is established.

This method is suitable especially for cases of large growths in the trigone, inoperable growths, multiple growths, and recurrent tumors, and those in which the patient's general condition is poor.

In 81 cases treated prior to 1930 the mortality was 13 per cent. Many of the patients were poor risks. Since 1930, the mortality has been decreased by less extensive mobilization of the bladder.

Bladder resection is done in all cases in which the tumor is favorably situated and the general condition justifies it. It is preferred to radium.

The technique described by Beer in 1921 is followed. The bladder is exposed and mobilized. If the peritoneum is not involved, mobilization is not difficult. If the peritoneum is involved, it is left attached to the bladder and the peritoneal cavity is closed by suturing the anterior parietal peritoneum to the peritoneum in the pouch of Douglas. The vasa deferentia are ligated. The bladder is opened and the growth exposed and fulgurated.

With the needle electrode the bladder incision is enlarged well beyond the limits of the tumor or induration. If the ureter is involved it is cut across

from 1 to 2 cm above the bladder and implanted into the posterior bladder wall through a stab wound. The wound and bladder are bathed with 50 per cent alcohol. Fresh pads and instruments are used. Drainage is established and the wound closed.

In sixty-seven cases the mortality was 25 per cent. Total cystectomy with partial prostatectomy is indicated if there is extensive involvement of the trigone and ureters, if the sphincter is involved if the prostate has been invaded if the greater part of the bladder has been involved, or if multiple tumors cover too large an extent for radon implantation.

The bladder is mobilized. Each ureter is ligated as near the bladder as possible. The anterior attachments of the prostate are cut. The prostate is freed from the rectum so that the bladder, seminal vesicles and prostate are in one mass. The prostate is transfixed with heavy catgut and is excised with the endotherm needle proximal to the sutures.

The ureters are brought out for a distance of 2 or 3 cm through small gridiron wounds on each side just internal to the anterior superior spine and are sutured to the skin. Ureteral catheters or small rubber tubes are passed to the renal pelvis. Drainage is established down to the stump of the prostate and the wounds are closed. The ureters must be carefully watched.

In nineteen cases the mortality was 21 per cent.

In conclusion the author emphasizes the importance of careful diagnosis, pre-operative preparation, transfusion if indicated, the Trendelenburg position, the intravenous administration of glucose during the operation and the use of spinal, ethylene or nitrous oxide and oxygen anesthesia. He states that the main postoperative essentials are transfusions and continuous intravenous infusions of glucose.

CLAUDE D. IICKELL, M.D.

GENITAL ORGANS

Rich, A. R. On the Frequency of Occurrence of Occult Carcinoma of the Prostate. *J. Urol.* 1934 31 21.

Of 292 consecutive autopsies performed on males over fifty years of age who died of a wide variety of conditions carcinoma of the prostate was found in 14 per cent. In 65.3 per cent of the cases in which the diagnosis was made at autopsy the presence of a carcinoma of the prostate had not been recognized clinically. The tumor was found most often near the outer margin of the gland and showed a tendency to invade the capsule. FRANK M. COCHENS, M.D.

Hilman, F. Radical Operation for Teratoma Testis. *Am. J. Surg.* 1933 5 16.

There is confusion as to the merits of and the time for radical operation for teratoma testis.

The pathological classification of these teratomas is difficult. Almost all are malignant. All metastasize first to the primary lymph zone of the testis. Some are radioresistant and others radioresistant. Not all secrete a gonadotropic hormone into the

urine. Microscopic study will not show which of them will respond to irradiation.

At present two groups are recognized. The rare homologous types sarcomas and monocellular seminomas do not secrete a hormone. The heterologous tumors include the mixed tumors of adult tissue and the embryonal tumors arising from the totipotent sex cells. Only the latter secrete a hormone.

If the hormone has disappeared by two weeks after castration and the tumor is radioresistant the prognosis is good. If the tumor is radioresistant the prognosis is fair. If the hormone is present but diminishes or disappears under irradiation the prognosis is fair. If there is no change the prognosis is poor. If there is evidence of metastases but the hormone and metastases decrease or disappear under irradiation the prognosis is fair but otherwise it is poor. Because of marked variation in the hormone output following irradiation, this test is now considered uncertain.

If it is to give good results radical operation like castration must be performed early and on patients who do not show metastases. In the author's cases, the cord is divided with the cautery high in the inguinal canal and after this has been done frozen sections are made of the testis by an expert pathologist. The incision is then extended up along the edge of the rectus and continued out beneath the twelfth rib. Gentle traction is made on the cord to prevent the spermatic vessels and possibly the ureter from becoming stripped up with the peritoneum over the iliac vessels. The retroperitoneal exposure is carried up to the kidney pedicle.

The lymphatic tissue is carefully dissected from the iliac vessels and aortic bifurcation and the pre-aortic lymph areas and spermatic vessels are then dissected. If the lymph tissue extends down to the sacrum care is taken to avoid injury to the middle sacral artery. The ureter is freed and retracted with a narrow tape. The spermatic vessels are clamped.

As invasion of the primary and secondary lymph nodes on both sides may occur early operation should attempt the removal of both glands. Dissection on the left side is complicated by the superior mesenteric artery.

The author reports forty-nine cases. Twenty-five of the patients showed no clinical evidence of metastases. Of the fourteen who were subjected to the radical operation ten are living and have a good prognosis. Of seven in whom no metastases were found at operation six are living after from one to eight years. Of seven who showed metastases at operation four are living after from three months to fourteen years. Eight of eleven treated by castration and irradiation are alive. One has a good prognosis at the end of two years. Four have a fair prognosis. One presents evidence of metastases and increasing hormone after seven years. Three who were treated one three and seven years ago show increasing hormone. The remainder have a poor prognosis because of metastases and increasing hormone.

Of the twenty-nine who presented clinical evidence of metastasis, nine are alive. Four who were treated from a few months to five years ago have a fair prognosis. The tumors are radiosensitive although the hormone is present. In the cases of five, the tumors are radioresistant and the prognosis is poor.

CLAUDE D. PICKRELL, M.D.

MISCELLANEOUS

Barclay, I. B., and Baird, J. B.: Excretion Urography. *Brit J Radiol*, 1935, 8: 201

The authors analyze 385 consecutive cases in which excretion urography was done. They state that excretion urography is especially useful in the differential diagnosis of intra-abdominal conditions with urological symptoms. It is functional and dynamic, whereas retrograde pyelography is anatomical. In the technique used by the authors a plain roentgenogram is made first and, after the injection, roentgenograms are taken at the end of three, ten, and thirty minutes. In the 3 exposures made after the injection the outline of the conducting system varies according to the position of systole or diastole. In general the roentgenogram made after three minutes is the most informative as regards renal function, but good concentration persisting after thirty minutes is suggestive of an abnormality such as hydronephrosis, ureteral obstruction, infection, or ovaluria.

In cases of painless hematuria, whether constant or intermittent, examination by excretion urography should be done early.

It is of value also in renal lithiasis. Plain plates should be made first on inspiration and expiration to ascertain whether the shadow moves with the kidney. In cases of non-opaque stones excretion urography may give sufficient evidence to justify exploration. It is invaluable in checking recovery following operative procedures.

In tuberculosis it differentiates the normal and the pathological side. Fringing or a bulbous deformity of the terminal portion of the calyx and its tortuous elongation and irregularity are strongly suggestive of early tuberculous disease.

Excretion urography is especially helpful in the cases of children, who are not good subjects for instrumentation.

The diagnosis of renal neoplasm requires retrograde pyelography as the intravenous urogram reveals little more than impairment of function on the affected side.

Excretion urography is valuable in cases of ureteral conditions. In many of these cases the retrograde method may be dispensed with entirely.

ANDREW McNALLY, M.D.

Desjardins, A. U., Stuhler, L. G., and Popp, W. C.: Fever Therapy for Gonococcal Infections. *J. Am. M. Ass.*, 1935, 104: 873

Between December, 1933, and September, 1934, thirty-three patients suffering from simple urethritis

or urethritis complicated by cervicitis, salpingitis, or arthritis were referred for fever therapy. Four must be excluded because they did not return after the first session of fever or failed to cooperate.

Of the twenty-nine remaining patients, twenty-five received systematic treatment and were cured.

The average number of sessions of fever required to effect a cure was five and four-tenths sessions. The largest number of sessions required was twelve in one case. This large number was necessary because, during the early sessions, an adequate degree of fever was not attained or was not maintained long enough. The lowest number of sessions of fever required for cure in any case was three.

Four patients were not cured, probably because the required degree of temperature could not be attained or consistently maintained for a sufficient time.

During the early phase of this work the sessions of fever were repeated only when the urethral discharge re-appeared, that is, after a lapse of from three to seven days. Later, only two days intervened between sessions.

At first also a rectal temperature between 41.1 degrees C. (106 degrees F.) and 41.7 degrees C. (107 degrees F.) was maintained for five hours in most cases, but in some cases such a degree of fever was not attained or was not consistently maintained for five hours. This explains why a few patients required as many as seven or ten sessions and one patient required twelve sessions of fever for cure.

The first two sessions are regarded as test sessions. In these sessions a temperature between 41.1 degrees C. (106 degrees F.) and 41.7 degrees C. (107 degrees F.) is maintained for six hours. If by the end of that time the urethral discharge continues and gonococci are still found in smears, the duration of subsequent sessions is increased to seven or eight hours. With such a scheme of treatment more than four sessions of treatment are seldom necessary. The possibilities of the method are illustrated by the case of a man who was cured of gonococcal urethritis after four sessions of fever and the case of his wife who was cured of gonococcal urethritis with a complicating unilateral salpingitis after six sessions.

Well-controlled diabetes does not contra-indicate fever therapy for gonococcal infection or for any other condition for which fever therapy may be indicated. This conclusion is supported by a cure obtained by fever therapy in the case of a man with diabetes.

When fever therapy is properly carried out with specially trained nurse technicians in constant attendance and the constant supervision of a physician familiar with all phases of such treatment, and when the cases are carefully selected, only minor complications need be anticipated. These include herpes labialis, an occasional skin blister, and muscular tetany (hands, feet, and sometimes the abdomen), which promptly disappears on the administration of carbon dioxide and oxygen or the intravenous injection of calcium gluconate.

As sedatives codeine pentobarbital sodium and sodium amytal have been found most satisfactory Dilaudid is unreliable and may lead to collapse Morphine should be avoided because of its tendency to induce nausea and sometimes vomiting which may seriously interfere with the adequate intake of fluids and chloride during treatment

Fever therapy, especially for conditions requiring a high temperature should be given in an institution where adequate facilities and a trained personnel are available It cannot be carried out in conjunction with other medical practice without an increase in the risk

Kurzenberger E The Treatment of Lymphogranulomatosis Inguinalis—Climatic Buboes (Zur Frage der therapeutischen Behandlung der Lymphogranulomatosis Inguinalis—Klimatische Bubonen) 1934 Hamburg Dissertation

Lymphogranulomatosis inguinalis is an infectious disease of the lymph glands identical with the climatic bubo observed in the tropics by Mueller and Justi The clinical picture is characteristic At first there is slight enlargement of some of the glands of both inguinal regions which is of firm consistency and slightly tender to the touch In peradenitis the glands merge to form a nodular bundle over which the skin is immovable Softening then takes place and is followed by perforation with fistula formation The skin at first appears to be bluish and then brownish red Frees intracutaneous reaction is a valuable aid to diagnosis The pus obtained by puncture from softened but still closed

gland serves as an antigen One tenth of a cubic centimeter injected intracutaneously into the arm gives rise in twenty four hours to papular inflammations about 1 cm in diameter around which a red halo forms at the end of forty eight hours

The etiology is not clear Bacilli have not been demonstrated with certainty The incubation period is from ten to thirty days There is no universally applicable treatment Surgical treatment with curettement of the glands roentgen irradiation and chemotherapy are considered Drugs that have been tried are antimony (this may cause nephrosis or exanthems), salicylic acid ammoniated copper sulphate and methylene blue Stimulation therapy by the injection of milk or protein bodies and specific vaccines prepared from the dried contents of the glands has been used with varying results The author reports on treatment with maximal fever therapy The result of this treatment consists in shortening the period of healing and depends upon excitation of a maximal general reaction on the part of the organism Pyrexin is used to produce the fever and, later mixed vaccines of colon bacilli staphylococci streptococci and gonococci (Omnivall) Five or six injections are sufficient for cure The injections are made intravenously in increasing doses of from 2 to 3 c.c.m. If possible they are made during the stage of softening otherwise they are preceded by hot applications If fistulas are present local irrigations with potassium permanganate are given For resistant cases the author recommends the injection of autovaccine in addition to fever therapy

(HIVICHSEN) FLORE CE ANNAN CARPENTER.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Livingston, S. K.: Demineralization of the Skeleton. *Am. J. Surg.*, 1935, 27, 31.

The author reports five cases of generalized decalcification proved by therapeutic tests, biopsy, or autopsy to have been due, respectively, to hyperparathyroidism, Paget's disease, multiple myeloma, osteitis fibrosa cystica, and tumor metastases.

Hyperparathyroidism is characterized by loss of calcium and phosphorus fixation with resulting failure of retention of these elements in the bones; an increase in the serum calcium, calcinuria, a normal calcium and phosphorus content in the feces, a low content of phosphorus in the serum, an increase in the phosphorus in the urine, and an increase in the phosphatase in the plasma.

The case reported by the author was that of a man forty-two years of age who complained of pain in the lumbar region and weakness of the legs. Roentgenograms disclosed pathological processes in the skull and long bones. These included widening of the shafts of the long bones, a mottled appearance of the bones with superimposed punched out areas, and a compression fracture of the fourth lumbar vertebra. The blood calcium ranged from 29.4 to 30.8 mgm., and the serum phosphorus from 5.0 to 3.0 mgm. per 100 c. cm. Following deep roentgen therapy, roentgenograms showed marked improvement in the bone condition. The patient is now able to walk.

Paget's disease is characterized chiefly by softening and hyperplasia of the bones. The outer table of the cranium undergoes a remarkable thickening and, in the roentgenogram, has a woolly appearance. Studies made with the patient at rest on a test diet show the serum calcium to be at the upper limits of normal, the serum phosphorus normal, the metabolic rate increased, calcinuria and phosphaturia absent, the plasma phosphatase increased, and the excretion of phosphorus and calcium in the feces normal. The onset of the condition begins in middle life or later. The first sign is often enlargement of the skull, but in some cases may be deformities of the tibia. In the roentgenogram the bones have a woolly appearance and show increased thickness. In well-marked cases the diagnosis can often be made merely by observing the attitude, gait, and deformities.

The case of Paget's disease reported by the author was that of a man forty-two years of age who complained of weakness in the lower part of the spine. The patient was a man of short stature with a barrel-shaped chest, a large cranial vault, and some bowing of the lower extremities. Roentgenograms disclosed enlargement of the cranial vault and thickening and

mottling of the cranial and long bones. The serum calcium was 13.2 mgm., and the serum phosphorus 3.5 mgm. per 100 c. cm. The basal metabolism was +62.0. Deep roentgen irradiation and symptomatic treatment were given, but the patient died. Autopsy confirmed the clinical diagnosis of Paget's disease and showed, in addition, a pyelonephritis with multiple abscesses in both kidneys.

Multiple myeloma is a neoplastic disease of unknown causation characterized by multiple tumors of the bone marrow of single cell origin. Metastases outside the bone cavities are rare. The tumors are bone destroying and appear in the roentgenogram as multiple punched out areas of variable size. The condition is of insidious onset, but progresses to a stage of increased and constant pain and deformity. The blood picture is not characteristic. Bence-Jones bodies appear in the urine in from 65 to 70 per cent of cases. The diagnosis is confirmed by biopsy. On the basis of the histological findings the following four types of the disease are recognized: (1) the multiple plasma cell type, (2) the multiple endothelial cell type, (3) the myeloblastic cell type, and (4) the erythroblastic cell type.

The author's case of multiple myeloma was that of a man forty-four years of age who gave a history of pain in the lumbar region which had been present for twenty years and had finally caused him to become bedridden. Examination revealed a gibbus over the eleventh and twelfth thoracic and the first lumbar spaces. Roentgenograms disclosed generalized demineralization. The skull and long bones in particular showed small rounded areas of lessened density. The clinical diagnosis of multiple myeloma was confirmed at autopsy.

The term "osteitis fibrosa cystica" is applied to a multiplicity of lesions, the most common of which is the solitary bone cyst found in the long bones of young adults. Swelling, slight deformity, and moderate pain may be present, but frequently attract little attention until injury or pathological fracture is superimposed. Three types of cysts are recognized: (1) solitary bone cysts occurring between the ages of five and fifteen years in the metaphysis of the upper part of the humerus, femur, or tibia, (2) an acute cyst of not more than six months' duration situated in the shaft side of the epiphyseal line and containing giant cells, and (3) latent cysts. The latent type is best termed "fibrocystic disease." In some cases a parathyroid tumor is present and the blood shows an increase in its calcium content and a decrease in its phosphorus content. The histological structure of the cyst wall leads to the conclusion that the process is one of fibrous proliferation and new bone formation associated with repair and healing.

The case reported by the author resembled the type of bone disease called by Gruen, Apfelmach and LeVasser *osteomyelodysplasia*. The patient entered the hospital complaining of generalized weakness and profuse sweating. Roentgen examination revealed multiple small cystic areas in the skull, a localized cystic area in the middle of the shaft of the left humerus and at the tip of the scapula and multiple cystic areas in the lower end of the humerus. The blood calcium ranged from 14.4 to 12.2 mgm. and the blood phosphorus from 4.2 to 3.52 mgm. per 100 c.c. Histological examination showed replacement of bone by fibrous tissue with occasional giant cells and small areas of degenerating bone.

Geschickter and Copeland state that metastases to bone have an extremely variable clinical picture as the number of different primary tumors responsible for such secondary deposits is large and the type of osseous involvement may be multiple or single osteolytic, or osteoplastic. In many cases the clinician is unable to determine the source of the bone lesion definitely.

The case of osseous metastases reported by the author was that of a man fifty-four years of age whose chief complaint was pain in the lower part of the back radiating to the left hip. Roentgenograms disclosed some irregularity of the lateral portion of a left rib, discrete areas of decalcification in the skull and a moderate degree of demineralization of the bodies of the lumbar vertebrae. A diagnosis of metastasis and osteo-arthritis was made.

ROBERT C. LOVERGLEN, M.D.

Culliani, G. M. The Influence of Vascularization on the Formation of Bone in Connective Tissue and the Formation of Cartilage (*L'influenza della vascolarizzazione nell'osteogenesi connettivale e nella formazione di cartilagine*). *Arch. ital. di chir.* 1934, 38, 645.

The author studied the effect of venous stasis and ischemia on bone formation in the kidney of the rabbit. He produced venous stasis by ligating the renal vein. He observed that although at first the kidney increased in size it later became smaller and was converted into a mass of bone and connective tissue. The effect of venous stasis on the renal parenchyma was the appearance of areas of necrosis which first became infiltrated with calcium salts and later were invaded by newly formed connective tissues. The author believes that the connective tissue contained undifferentiated mesenchymal cells which absorbed the calcium salts and redeposited them in the form of bone thereby producing an osseous metaplasia of the connective tissue. The newly formed osseous tissue contained bone marrow in which there was evidence of myelopoiesis. The myeloid cells were also derived from the undifferentiated mesenchymal cells of the connective tissue.

Ischemia of the kidney was produced by ligating the renal artery. This procedure was followed by a diffuse necrosis of the renal parenchyma and the

deposition of calcium salts in the necrotic areas. The remaining interstitial connective tissue proliferated, invaded the necrotic areas and gave rise to islands of cartilage. By the absorption and redeposition of the surrounding calcium salts the cartilaginous tissue underwent metaplasia into bone.

The author concludes that venous stasis favors the development of connective tissue ossification and the formation of bone marrow, and ischemia favors the development of cartilage which, in the presence of calcium salts, undergoes metaplastic ossification.

He believes that this biological formula of the effect of venous stasis and ischemia explains the different types of ossification in the development of the normal skeleton and heterotopic ossifications.

PETER A. ROSE, M.D.

Bennett, G. E. and Jones, H. A. Tuberculosis of a Diaphysis. Report of a Case. *Arch. Surg.* 1933, 10, 653.

The authors report a case of fulminating diaphyseal tuberculosis in which the nature of the condition remained unrecognized until postmortem examination. The lesion occurred in the mid shaft of the left femur of a colored man twenty-two years of age. The authors state that tuberculous of the diaphysis of a long bone is exceedingly difficult to differentiate roentgenographically from a similar lesion produced by syphilis or a malignant process.

In the case reported the usual laboratory procedures for the detection of tubercle bacilli were not employed as tuberculosis was not suspected. In addition to the tuberculosis of the left femur the postmortem examination revealed tuberculous lesions in the brain and lungs and other viscera.

NORMAN C. BULLOCK, M.D.

Telling, W. H. M. The Clinical Importance of Fibrositis in General Practice. *Brit. M. J.* 1935, 1, 689.

Telling believes that when the white fibrous tissue of the body undergoes pathological change as the result of injury or infection it is always more or less tender to pressure or strain and that in many cases fibrositis is incorrectly called muscular rheumatism, neuritis or growing pains of childhood.

He recognizes three main causes of fibrositis—viz. injury and climatic influences—and believes that disease of the white fibrous tissue is often responsible for headache, trigeminal neuralgia, certain vague pains in the chest and abdomen and sciatica.

PAUL C. COLONNA, M.D.

McMaster, I. E. Cartilaginous Inclusions in Rachitic Bones and Their Possible Relationship to Cartilaginous Tumors. *J. Bone & Joint Surg.* 1935, 1, 373.

At autopsy on a five-year-old child who died of tuberculosis, studies were made of the bones because of the history and discovery of healed rickets. Cartilaginous inclusions were found in the epiphyses and metaphyses of the long bones and in the ribs and

vertebrae. These were fairly numerous, but as they showed only faintly in the roentgenograms it is evident that such inclusions may be easily overlooked in clinical roentgen studies.

In experiments on rats in which rickets was produced by diet and the animals were killed at various periods during their recovery from the disease cartilaginous inclusions were found in the metaphyseal, epiphyseal, and cortical regions. Many of them showed calcification, but in some there was little or no evidence of calcification. The author believes that uncalcified cartilaginous inclusions occurring in healed rickets may later grow to form benign cartilaginous tumors of bone.

CHURCHER C. GUY, M.D.

Janas, A.: The Method of Cure of Tuberculous Spondylitis in the Adult (Metodo di guarigione della spondilite tubercolare nell'adulto). *Chir. d'organi di movimento*, 1935, 10: 560.

The author first reviews the more important differences in tuberculous spondylitis as it occurs in children and adults. He states that the lesions are of the following 4 types: (1) the epiphyseal type, (2) the superficial type, (3) the massive destructive type, and (4) the type with necrosis (Koenig).

He reviews 456 cases treated conservatively at the Rizzoli Institute and the Orthopedic Clinic of Monaco. Cure was obtained in 256 (56 per cent). Of the latter, complete roentgenographic studies were made in 130 and follow-up roentgen studies in 94 (37 per cent). Thirty-eight patients were re-examined roentgenographically after a year. Twenty-eight were followed for two years, 12 for four years, and 10 for from four to six years. The data for the 162 others are insufficient to show whether the condition has been only temporarily controlled or permanently cured.

The author next divides the cases into groups according to the patients' ages and reviews the results with regard to (1) complete somatic healing, (2) partial somatic healing, (3) peripheral healing or peripheral new formation of bone, and (4) absence of somatic healing.

He emphasizes the importance of roentgen examination and presents instructive roentgenograms.

His findings and conclusions are summarized as follows:

1 The most common type of tuberculous spondylitis in the adult is the epiphyseal type localized in the lumbar spine. The evolution of the lesion and its cure are slow and related to the age of onset.

2 Each of the 4 stages of healing has a typical roentgen appearance.

3 Of the 130 cases studied roentgenographically, 32 (24.6 per cent) were in the first stage. Of the patients in this group, 17 were between twenty and thirty years of age, 8 between forty and fifty, and 4 between fifty and sixty. The duration of the disease up to final anatomical cure varies with the patient's age. In the reviewed cases it varied from three and a half to four and a half years in the cases of patients

between twenty and thirty years of age and from eight to ten years in those of patients from fifty to sixty years of age. In 3 of the latter the disease began between the ages of forty and fifty years.

4 Somatic healing, which has hardly begun by the time walking is resumed, becomes gradually more definite, being favored by the new mechanical conditions of pressure to which the vertebral column is subjected in the erect position.

5 Of 7 cases in which peripheral somatic healing occurred, the union was sufficient in 5. In 2 cases the new marginal formation of bone in the form of small bridges was insufficient to hold the spine. In the formation of these osseous stalactites the static and dynamic changes occurring in the spine when walking is resumed play an important rôle.

6 Of 35 cases in which only partial healing occurred, definite consolidation of the spine was demonstrated in only 7.

7 Therefore, of the 130 cases studied roentgenographically, the vertebral column was well reinforced in 44 (33.8 per cent). As it is necessary to deduct 4 cases with persistent pain, a cure with good anatomical results was obtained in 40 (30 per cent).

8 These findings prove that the adult body is able to heal tuberculous foci and to produce ankylosis of the spine at the site of the lesion in a third of the cases. This fact does not detract from the importance of osteosynthesis in the treatment of tuberculous spondylitis. However, when conservative measures are combined with operative procedures, care is necessary in estimating the relative value of each type of treatment.

EUGENE T. LADD, M.D.

Ferguson, A. B., and Howorth, M. B.: Coxa Magna: A Condition of the Hip Related to Coxa Plana. *J. Am. M. Ass.*, 1935, 104: 808.

The authors believe that coxa magna is related to coxa plana and the latter is due to a nutritional disturbance of the upper femoral epiphysis from interference with the circulation caused by sclerotic changes about the neck of the femur. Enlargement of the femoral head and neck may result when the sclerotic changes are not sufficient to cause coxa plana.

The clinical signs of coxa magna resemble those of coxa plana. In all of the thirteen cases reviewed by the authors there was definite or suggestive evidence of infection. Trauma did not play an important part, but may have aggravated the symptoms. Roentgenographic examination disclosed broadening of the femoral head and neck varying from $\frac{1}{16}$ to $\frac{3}{16}$ in. The cartilaginous joint space was wide in four cases, normal in seven, and thin in two. The capsule appeared to be distended in six. The broadening of the head and neck tended to increase for a varying time, while the other changes tended to disappear.

Exploration was done in seven cases. The bone and cartilage were found essentially normal. The outstanding feature was thickening of the tissues around the femoral neck and of the synovial mem-

brane and the capsule. The examination revealed also congestion and sclerosis of the soft tissues small areas of mononuclear infiltration and thick walled vessels.

The diagnosis of coxa magna is made when a hip presents the clinical features of a mild acute, or subacute arthritis similar to those of coxa plana or the preslipping stage of slipping epiphysis but on the roentgenographic examination shows enlargement of the femoral head and neck without the changes characteristic of the latter conditions.

The symptoms and physical signs of coxa magna tend to improve with rest. If no treatment is given they tend to run a long course with eventual improvement. The authors recommend rest in bed without immobilization treatment of focal infections and exploration when it is necessary to rule out tuberculosis.

ROBERT C. LOVERGAY, M.D.

Lapasset and Cahuzac. Congenital Absence of the Fibula (Absence congénitale du péroné). *Rev d'orthop.* 1935 42 110

Lapasset and Cahuzac state that congenital absence of the fibula is one of the most frequent malformations. In a review of the literature they found the records of 295 cases and they have observed several cases in their own clinic at Toulouse.

In the most interesting of the authors' cases—that of a boy nine years old—the right foot was in external rotation and valgus with its sole turned backward and outward and had only four toes while the left foot was in a position of internal rotation and varus and had only three toes. The right leg was several inches shorter than the left. The child was able to walk considerable distances but on walking the body was inclined markedly to the right. Roentgen examination showed total absence of the fibula on both sides, marked angulation and thickening of the right tibia, absence of the astragalus in the right foot, atrophy of the astragalus in the left foot and absence of the internal malleolus on the left side.

Of the cases found by the authors in the literature the fibula was absent on both sides in about one third. In two thirds the bone was entirely absent. In the others only a portion of the bone was lacking. In most cases the tibia was deformed and shortened. In none of the reports in the literature was there a record of absence or atrophy of the internal malleolus.

Of the various deformities of the foot associated with congenital absence of the fibula the most common are absence of the astragalus and absence of one or more toes. Of other malformations which may be associated with the condition the most common is a similar deformity of the upper extremities.

There is usually no evidence of a hereditary factor in the causation of the deformity. In the authors' case the family history was entirely negative. While such congenital deformities are usually attributed to arrested development of the fetus their essential cause remains a matter of speculation.

In the authors' case treatment was not attempted as the patient's family did not desire it. The authors are of the opinion that when the child's growth is complete a cuneiform osteotomy should be done on the right tibia and followed by tibiotarsal arthrodesis with fixation of the foot in equinus. This procedure would throw the weight on the forward part of the foot to compensate for the shortening of the leg.

In general the treatment indicated in cases of congenital absence of the fibula depends upon the degree of the deformity. In some cases without malformation of the tibia the use of orthopedic apparatus is sufficient to hold the foot in good position. In others a bone grafting operation or arthrodesis may be indicated. In cases with marked angulation of the tibia osteotomy with a supplementary procedure such as that suggested for the authors' case is necessary.

ALICE M. MEYERS

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Hohmann G. The Treatment of Traumatic Flail Knee (Zur Behandlung des traumatischen Schlotterknees). *Zentralbl f. Chir.* 1935 p 145

On the basis of the cause, two types of flail knee may be recognized: the flail knee due to injury of the soft parts and the flail knee due to injury of the bony structures of the joint. Of the first type is the flail knee due to meniscus injuries, especially the flail knee due to meniscus injuries, whether due to weakness of the vastus medialis muscle caused by the widely exposing S incision of Payr or due to injury of the internal lateral ligament caused by a transverse incision.

A young man treated for locking of the knee joint by an operation performed through an S incision gradually developed a marked flail knee with uncertainty of the gait and frequent joint effusions. Distinct atrophy of the vastus medialis muscle indicated injury of this tensor of the capsule. The superficial parts of the muscle were mobilized partly separating them from the knee joint capsule and the lower layers. A distally pedunculated three-cornered flap was then formed from the lateral fibrous capsule and the upper muscular flap and the lower capsular flap were sutured together under great tension. In this manner great tension of the medial capsule and its interwoven medial ligament was produced and the flail knee corrected.

As an example of the second type of flail knee the author cites a case in which after avulsion of the femoral condyles apparently in the epiphyseal line flail knee developed as the result of healing of the lower short fragment in a varus and recurvatum position. By means of osteotomy at the site of the injury replacement of the displaced bone fragment and shortening of the stretched lateral ligament with sutures the relaxation of the ligaments was corrected and good closure of the joint was obtained. The principles were those followed by Lexer in the treatment of flail knock knee and genu recurvatum.

(A. BRAUNER) MATTHIAS J. SEIFERT, M.D.

Grigorescu, I., and Vasiliu, A.: The Surgical Treatment of Benign Tumors of the Knee Joint by Juvara's Operation (Die chirurgische Behandlung der benignen Tumoren des Kniegelenks mittels der Juvaraschen Operation) *Beitr z klin Chir*, 1934, 160 575

The authors report the cases of five patients with giant-cell sarcoma ("giant-cell sarcomas" according to Konjetzny) of the knee joint, four of whom were treated by extirpation of the tumor and bone transplantation by the method of Juvara and kept under observation for a number of years. As it was feared that the excision of a specimen for biopsy might cause dissemination of the tumor cells, the diagnosis was based entirely on the typical roentgen picture.

The first case was that of a girl twenty-one years old who had a large cystic bone sarcoma of the proximal end of the right tibia. Four years after the operation a pseudarthrosis developed between the distal end of the femur and the proximal end of the new tibia formed by a transplant from the femur. After its resection, rapid ossification took place and the roentgenogram soon showed the picture observed after resection of the knee.

The second case was that of a woman twenty-four years old who had a club-shaped tumor of the lower end of the femur. Two years after resection and transplantation, operation became necessary for a pseudarthrosis. Five years after the second operation the condition was as good as in the first case and the patient was able to walk almost without limping.

The third case was that of a girl seventeen years old who had a tumor the size of an apple in the proximal end of the left tibia. At first the patient refused resection. Later, amputation was performed by another surgeon. Pain developed in the amputation stump.

The fourth case was that of a very corpulent woman with a chondroma the size of an apple in the proximal end of the tibia. Two and a half months after operation a sequestrum separated from the medial surface of the bone transplant, but four years after the operation there was complete union of the transplant with the tibia and femur.

The fifth case was that of a girl eighteen years old who had a pear-shaped cystic giant-cell sarcoma the size of a child's head in the lower end of the right femur. The tumor was removed and the defect filled with bone from the tibia. A roentgenogram taken two years later showed bony union of the transplant.

The operative technique varies according to whether the tumor involves the distal femoral or the proximal tibial epiphysis. The authors therefore designate the operations as Operation A and Operation B. Operation A, performed under lumbar anesthesia, consists of extirpation of the distal end of the femur and immediate transplantation of a spicule of bone from the same side of the tibia. In Operation B, the bones are treated in the reverse

manner. Both methods are described in detail and shown by illustrations.

The after-treatment consists in the application of a plaster dressing which is left on for five or six months. At the end of that time the patient may walk with crutches and with the leg in a leather case. Complete healing cannot be expected before three or four years.

(KEMPE). CLARENCE C. REED, M.D.

FRACTURES AND DISLOCATIONS

Hey Groves, E. W.: Organization of the Treatment of Fractures. *Brit M J*, 1935, 1 813.

The author compares the results obtained in cases of fracture treated in organized clinics with those obtained in similar cases treated elsewhere. He states that in cases with no unity of control, no continuity of treatment, and no "follow-up," the average period of disability is three times as long and the incidence of permanent disability is thirty-seven times as high as in well treated cases. In Manchester and Liverpool complete fracture services have been established. He cites illustrative cases of: (1) failure due to lack of supervision, (2) failure due to error in the primary treatment, and (3) failure due to divided responsibility. He urges that the scheme for an organized fracture clinic proposed by the Fracture Committee of the British Medical Association be adopted more generally. He believes that it would pay the insurance companies to finance such clinics.

BARBARA B. STIMSON, M.D.

Ruhl, J.: Follow-Up Investigations Regarding the Injurious Effect on Bones of Buried Large Metal Bodies Used in the Treatment of Fractures (Nachuntersuchungen auf schädigende Wirkung in den Knochen versenkter grosser Metallkörper bei Knochenbrüchen) *Arch f orthop Chir*, 1934, 34 615.

In Germany the old dispute regarding the introduction of metal in the treatment of fractures still persists, while in America, England, France, and Belgium this procedure is not feared. Boehler stated that he was definitely opposed to buried metal because, of 274 fractures treated by Lane's method, osteitis developed in 35 per cent and pseudarthrosis in 7 per cent (Dahl-Iversen). However, he failed to mention the fact that in 53 per cent the osteitis completely disappeared within four months after removal of the plate, in 80 per cent in the first year, and in the remaining 20 per cent in from one to three years. Kirschner, Magnus, Fohl, E. W. Lever, Bonn, and Mueller also disagree with Koenig, Frisch, Lauer, Gerlach, Schaefer, and Muehsam.

Ruhl made a follow-up investigation in cases treated from six to eleven years previously. In 18 cases Lane plates were applied. Only 10 of the patients returned for re-examination, but fortunately these were good subjects for such a study. Ruhl does not state whether, in the cases of the 8 others, the fate of the plate was reported in written

communications. Nine cases are reported in detail with roentgenograms. Ruhl states that in his opinion, Lane's method is the method of choice for certain fractures; it is to be recommended for forearm fractures, and it is suitable for children and other young persons.

If supuration occurs or a fistula forms removal of the plates is, of course, necessary. After from eight to ten weeks this can usually be done without endangering consolidation. In 1 of the cases followed up by Ruhl a late fistula was formed. In the lower leg removal of the plate comes up for consideration earlier because the position is close under the skin. The plates must always be large. The screws should be of rustless Krupp steel. They should go through both cortices and should have threads up to their heads. Their projection beyond the opposite cortex usually does no harm as sooner or later callus will grow around the projecting part as it does over the plate. In the period from 1915 to 1919 no pseudarthroses were seen at the Koenig Clinic. Serial roentgenograms show that the fracture line as well as the absorption often remain visible for a long time even for many years. Ultimately sclerosis occurs and as a rule especially in young persons is followed by complete restoration with a medullary cavity. (FRANZ) BARBARA B. STIMSON M.D.

Heyl J. H. Fracture of the External Condyle of the Humerus in Children. *Ann. Surg.* 1935 105 1069

Heyl states that epiphyseal separations of the external condyle of the humerus of slight degree are relatively common but complete separation with rotation of the fragments is unusual. He reports five cases of complete separation which were seen at St. Mary's Hospital for Children, New York during the last eight years. The case histories are preceded by a general discussion of fractures of this type. In a review of the literature Heyl found that of the total number of reputed fractures of the external condyle complete separation of the lower fragment occurred in only a small percentage. Cases of the latter type usually present a deformity similar to that described by Morris Smith. The fixed point of the attachment of the lower fragment is through the external lateral ligament to the radius below. In the typical case the fractured surface is turned outward so that it is subcutaneous while the articular surface of the capitellum is directed toward the fractured surface of the shaft. If the displacement is not corrected valgus deformity may result and may cause serious functional disturbances sometimes even injury of the ulnar nerve. The diagnosis is not difficult.

Heyl believes that open reduction should be attempted when closed reduction is not successful. He states that while excision of the displaced epiphysis may give good results in some cases it may also result in ingrowth deformity. Excision in the cases of children should be discouraged, even in late cases. If it is ever justified in the cases of children it should be done only near the end of the period of

growth. Replacement of the fragment should be done as soon after the injury as possible. After the operation the forearm should be maintained in acute flexion for two weeks. At the end of that time active motion should be started. A good immediate result may end in valgus deformity because of failure of growth. Even in these cases however the deformity will be much less than in cases treated by excision.

Of the five cases reviewed by the author, four were treated by open reduction and in one excision of the fragment was done.

The article is supplemented by photographs and roentgenograms. BARBARA B. STIMSON M.D.

Leveuf J. and Girard H. Open Reduction of Supracondylar Fractures of the Humerus in Children. (*La réduction surlante des fractures supra-condyliennes de l'humerus chez l'enfant*) *J. de chir.* 1935, 45 358

Supracondylar fractures in children are frequently very difficult to reduce. Wire traction through the ulna gives excellent results but requires careful supervision and frequent bedside roentgen examinations to control the position. Open reduction can give very satisfactory results although it has met with considerable opposition.

The authors describe their operative technique. They make a lateral incision directly over the lateral epicondyle and extend it behind the supinator longus to the fracture site. The radial nerve is at the upper end of the incision and can be isolated for greater security. The upper fragment is freed and pulled into the wound with a Lambotte hook and the fractured surface carefully cleaned off. As the lower fragment is difficult to control the authors transfer it with the square point tool of Ombredanne from the lower external surface to the center of the broken surface. It can then be forced into place the instrument driven into the upper fragment and a tibial graft placed into the defect so made. The graft measures 4 mm by 5 or 6 cm. The aponeurosis and skin are then sutured and a splint is applied. Motion may be begun on the fifth or sixth day but maintenance of the splint for two weeks gives greater security.

As the authors have so far followed no cases beyond a year the question of interference with the external articular cartilage by this operation is not yet answered. BARBARA B. STIMSON M.D.

Hein B. J. Fractures of the Forearm. An Analysis of 415 Cases with Special Reference to Disabilities. *J. Bone & Joint Surg.* 1935 17 472

The author reviews 415 fractures of the forearm with regard to the anatomical and functional end results and the time lost. Sixty six and seven tenths per cent of the fractures occurred in the lower third of the forearm, 14.7 per cent in the middle third and 18.5 per cent in the upper third. The treatment usually consisted of reduction and retention by plaster or coaptation splints followed by baking massage and motion begun as early as was consistent.

ent with good results. Tracings from roentgenograms, short case histories, and many tables are included in the article.

Thirty-eight (9 per cent) of the cases were treated by operation. In 15 of these, resection of the radial head was done. Good results were obtained in 87 per cent of the surgically treated cases.

Nerve injury was found in only 1 case. This was a case of fracture of the upper third of both bones with injury to the median nerve due to extensive loss of the soft parts. There were no cases of Volkmann's ischemic paralysis.

The author concludes that fractures of the forearm usually heal well. The time lost varies with the location and nature of the fracture, the presence or absence of complications, and the patient's occupation and age. Of the cases reviewed, the period of disability was longest in those of fracture of both bones in the middle, upper, and lower thirds, those of fracture of the middle third of the radius, those of fracture of the middle third of the ulna, and those in which late resection of the head of the radius was done. In fractures in the lower third of the forearm, especially Colles' fractures without comminution, healing occurs rapidly with good results. Fractures in the middle third present more of a problem, as shown by poor results and longer periods of disability. Fractures in the upper third involve chiefly the olecranon and head of the radius. In fractures of the olecranon surgery gives excellent results. In fractures of the head of the radius without displacement conservative treatment gives good results, whereas in those with displacement, the best results are obtained by early resection.

BARBARA B. STIMSON, M.D.

Agrifoglio, M.: Isolated Fracture of the Odontoid Process of the Axis (Le fratture isolate dell'apofisi odontoidica dell'epistrotico). *Chir. d. organi di movimento*, 1935, 19: 577.

Traumatic lesions involving the first two cervical vertebrae have not been reported very frequently, but since the use of roentgenography a greater number have been described than previously. The literature contains statistics on fracture of the odontoid process accompanied by luxation of the atlas, but scarcely any mention of uncomplicated fractures of the odontoid.

The author reports a case of isolated fracture of the odontoid process of the axis in a woman fifty-two years of age who fell and hit the ground on the right side of her head and neck. After the accident the patient resumed her work, but three days later she became dizzy and fell again, hitting the back of her head. Shortly thereafter she found movement of the head almost impossible because of extreme pain in the neck. After a few days, during which time she remained in bed, she consulted a physician. The physician first applied a salve. When this failed to relieve the pain, he immobilized the neck in a plaster-of-Paris cast for twenty days. On removal of the cast the pain in the neck recurred. The pa-

tient then reported at the author's clinic. She held her head rigid in mild extension.

Examination revealed rigidity of the neck and shoulders with contracture of the sternocleidomastoid muscles, tenderness on pressure over the second cervical spinous process, and notable limitation of the movements of the head. Pressure on the posterior pharyngeal wall disclosed nothing abnormal except markedly increased pain. When the patient changed from the lying to the sitting position or vice versa she supported her head in her hands. Roentgenograms revealed a fracture of the odontoid without displacement. A plaster collar was applied and left on for a period of three months. Thirty days after removal of the collar, movements of the neck and shoulders were much less painful than before.

The author states that such fractures are most common in men between twenty and fifty years of age. He believes that while they may be caused by direct trauma, they are usually produced by indirect violence. The pain is not well localized. Frequently it radiates to the back. The head is usually held normally, but sometimes is inclined to one side. Some patients hold the head with their hands, especially when changing position. This may be a very important sign. In some cases there is difficulty in swallowing which is probably due to a hematoma in the posterior wall of the pharynx. Roentgen examination should include an anteroposterior view through the open mouth and a lateral view.

In only two of the reported cases was there definite evidence of bony healing. In the majority of cases healing occurs by fibrous union. The prognosis is regarded as good if the condition is properly treated. The treatment indicated is the application of a plaster support for a number of months. The author emphasizes the importance of adequate and sufficiently prolonged immobilization.

BARBARA B. STIMSON, M.D.

Jahss, S. A.: Injuries Involving the Ilium. A New Treatment. *J. Bone & Joint Surg.*, 1935, 17: 338.

The author describes his method of reducing fractures of the pubis, separation of the symphysis pubis, and central fractures of the acetabulum by means of turnbuckles fastened between two leg plaster casts. The casts, properly padded, extend from the groin to the toes. Incorporated in them are the receptors for the turnbuckles, one set near the groin and one at the lower part of the legs. The greatest depth of the turnbuckle is exactly opposite the direction of the force. When the proximal turnbuckle is used as a fulcrum, closure of the distal turnbuckle exerts force directed outward on the pelvis. When the direction of the pull of the turnbuckles is reversed, the force on the pelvis is reversed.

The author has used the described method in two cases and on two specimens in the dissecting room.

The article contains roentgenograms and diagrams.

BARBARA B. STIMSON, M.D.

MacAusland A. R. Separation of the Capital Femoral Epiphysis *J Bone & Joint Surg* 1935 17 353

The author reviews forty-five cases of separation of the upper femoral epiphysis seen in his clinic during the last twenty-two years. Twenty-one of the patients gave a history of injury. The mild cases were treated by the application of a flannel bandage or leather spica. Cases with slight or moderate displacement and recent cases with severe displacement due to trauma were treated by the Whitman method of reduction and immobilization in plaster.

MacAusland states that the reduction may be determined accurately by use of the curved cassette giving vertical views of the femoral neck. He believes that six months is required for firm union to take place and that the spica should be worn during that period with weight bearing. Advanced cases require open reduction. Longstanding cases with coxa vara may require osteotomy.

In twenty-five of the twenty-nine reviewed which were treated by the Whitman method the patients were followed for from one to fourteen years after the treatment. In twenty (80 per cent) the results were excellent or good, in two (8 per cent) they were fair and in three (12 per cent) they were poor. Of the eight patients treated by open reduction only five could be traced. Of the latter one had an excellent result, one a good result, and three a poor result. The cases are summarized in tables and the case histories supplemented with roentgenograms.

The author concludes that successful results from closed reduction depend upon (1) early institution of the treatment (2) complete reduction, and (3) active treatment for a sufficiently long period.

BARNARD B. STIM, M.D.

Cones H. R. The Treatment of Fractures of the Os Calcis *J Bone & Joint Surg* 1935, 1 392

The author presents a study of seventy-two fractures of the os calcis of the squash type with disruption of the tuber angle and lateral expansion of the tuberosity. In all of the twenty-six old cases there was pronation of the heels with planus of the long arches, valgus of the forefoot and persistent disabling pain. Thirty-nine fresh and old fractures

were treated by subastragalar arthrodesis, five fresh fractures, by combined lateral compression and skeletal traction, fourteen fresh fractures by lateral compression and skeletal traction followed after five weeks by subastragalar astragalo-caphoid and calcaneocuboid fusion, and six old fractures by triple fusion only. Five patients with eight lesions refused treatment.

While exact conclusions are believed to be impossible because of the influence of present economic conditions on the patients' estimates of their disabilities, the author believes that simple subastragalar arthrodesis failed to yield satisfactory results in at least one-third of the fresh fracture and one-half of the old fractures. Failure of fusion was found about equal in the satisfactory and the unsatisfactory results. As it was attributed chiefly to upward displacement or shortening of the tuberosity, lateral compression with skeletal traction was instituted in five cases. However, the latter yielded only indifferent results. On exploration six weeks after the injury, marked erosion and roughening of the articular cartilage were found. Anatomical studies showed that depression of the sustentaculum tali permits subluxation of the astragalo-caphoid and calcaneocuboid joints. Therefore triple fusions are necessary to eliminate the serious mid-tarsal joint distortion. The author discusses the anatomical principles in detail. He believes that positive restoration of the normal contour of the foot and permanent preservation of the long arch are accomplished by triple fusion. He describes his traction apparatus for correction of the upward displacement and shortening of the os calcis. The pins are inserted usually from two to four days after the injury; the position is corrected by manipulation and traction and a well-padded plaster cast incorporating the pins is then applied. The cast and pins are left in place for four weeks. At the end of that time they are removed and a week or so later the triple fusion is done. Weight bearing is usually allowed eight weeks after the second operation. Of nineteen fresh fractures treated in this manner, excellent results were obtained in all but two. Of six old fractures in which triple fusion was done, the results were good in all but one. BARNARD B. STIM, M.D.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

De Takats, G.: *Peripheral Vascular Disease*. *J. Am. M. Ass.*, 1935, 104, 1463

The author believes that thousands of persons with progressive interference with their peripheral circulation are either entirely unconscious or only mildly conscious of the condition. Their feet may be pulseless but still in a state of compensation. In such cases the margin of safety is minimal. "Rheumatic" pains come and go with changes in the weather, mechanical stress, or emotional disturbances. An occasional numbness or tingling is disregarded. In the usual routine physical examination the state of the peripheral circulation is disregarded as the pedal pulses are seldom palpated. A sudden increase in the interference with the peripheral blood flow is usually an aggravation of a chronic progressive arterial obstruction that might have been predicted if a careful examination had been made. As a rule the general practitioner sees such cases first.

The author reviews the different methods of examination for determining the state of the peripheral blood vessels. Examination of the peripheral pulse, the determination of the skin temperature, and the study of changes of color with posture may be done by any general practitioner without elaborate equipment. The author discusses the significance of changes found by these examinations. In the study of patients with manifest or suspected vascular disease, the cutaneous histamine reaction may be of aid in determining the lowest level of safe amputation after the development of frank gangrene. During a course of conservative treatment, the histamine reaction may be of aid in determining improvement in the collateral circulation.

A great deal of information about the peripheral blood vessels may be gained by the use of the ordinary blood-pressure apparatus. The oscillometer is far more satisfactory, however, as it shows the level of vascular obstruction, the intensity of myocardial contractions, and the degree of elasticity of the vessel walls. The test recently described by Landis and Gibbon, in which a reflex dilatation of the vessels of the lower extremities is produced by applying heat to the skin of the upper extremities, not only reveals the element of spasm in a given case, but is of prognostic value as it measures the available collaterals.

After dividing peripheral vascular lesions into organic and functional groups the author briefly discusses the chief principles in their treatment. In the organic group the congenital anomalies, which mostly take the form of multiple arteriovenous fistulas, are to be treated surgically if they can be approached. Traumatic lesions of arteries produce

thrombosis, expulsive hemorrhage, or aneurism. Their management is purely surgical. Non-mechanical injuries caused by cold, heat, lead, arsenic, radium, X-rays, and electricity always produce the same reaction in the vessel wall, namely, a proliferation of the intima, subintimal cushions of granulated tissue, stenosis, and, finally, thrombosis of the artery. The treatment of all such injuries is highly conservative. The vessel spasm that occurs as the result of direct or reflex stimulation of the arterial musculature seems to be relieved best by large doses of theobromine sodium acetate. Collateral circulation is encouraged by heat and the use of intermittent negative pressure.

In the infectious group of organic lesions the administration of triple typhoid vaccine, strongly advocated for Buerger's disease, has been the method of choice in the author's clinic. Because of the increased viscosity of the blood, a water intake of from 3 to 4 qt. should be maintained. The author has been influenced against performing sympathectomies in Buerger's disease, first, because it is a generalized vascular infection, second, because the extremity uninvolved at the time of sympathectomy is not protected from later extension and progress of the vascular occlusion, and third, because the end-results are not strikingly different from those obtained by conservative measures.

The most frequent peripheral vascular disease is a narrowing or occlusion of peripheral arteries due to atheromatous plaques of the intima or calcification of the media. This occurs usually in old persons, but occasionally in adolescents, particularly if they are diabetic. The treatment must include the use of vasodilators, sedatives, and reasonable physical measures. According to the author's experience the alternating negative and positive pressure treatment is effective providing the action of the heart is adequate and the main arterial channels are sufficiently patent to permit suction into the ischemic areas below the knee.

In the opinion of the author, Raynaud's disease is a primary vessel spasm with an increased susceptibility to local stimulation but probably still of central origin. When no other primary cause is found and interruption of sympathetic vasoconstriction by nerve block or reflex heat relieves the spasm and is capable of producing vasodilatation, a sympathetic denervation of the affected part must be considered.

When analyzed, failures of sympathectomy may be found due to (1) mistaken indications, (2) insufficient technique, and (3) partial regeneration or neuroma formation. The sympathetic trunks regenerate very rapidly unless their trophic ganglion also is removed. Hence the importance of removing

long segments together with the ganglions and of applying alcohol or silver clips to the stumps

HERBERT F. THURSTON, M.D.

Frieh P. and Lévy A. Some Aneurismographs with Thorotrast (Quelques anévrismographes au thorotrast) *Lyon chir.* 1935 32 169

The authors report six cases in which roentgen visualization of an aneurism was rendered possible by the injection of thorotrast and cite a previous report on this procedure by Reynaldo dos Santos. They do not describe their technique.

The method will show the form and position of the aneurism, the thickness of its wall, the extent of the collateral circulation, the condition of the main arterial trunk, and any other aneurisms that may be present. It is of value also in cases of pulsating hematoma. The information gained is of considerable aid in determining the character and extent of the treatment indicated. It is clear that if the aneurism is of the fusiform type excision will probably be necessary, whereas if it is of the saccular type aneurismorrhaphy may be considered. Of special importance is the evidence of other aneurisms or of atheromatous disease of the main arterial trunk, which cannot be determined satisfactorily by any other pre-operative study. The article contains a number of arteriograms.

MAX V. ZIMMERER, M.D.

Nauleau J. and Contiades A. J. Indications for Arteriography in the Study of Arteritis (Indications de l'artériographie dans l'étude des artérites) *Rev. de chir.* 1935 54 212

The choice of the contrast medium for arteriography is most important. To be satisfactory, the medium must mix intimately with the blood and must be sufficiently opaque to produce a homogeneous and distinct vascular shadow. It must be fluid enough to be injected rapidly with a fine caliber needle and without causing obliteration of the arteriographic bed. It must be non-toxic both locally and generally, causing no reaction in the arterial wall and no changes such as coagulation or hemolysis in the blood stream. It must not produce vasomotor reactions leading to arterial spasm and it must not be caustic when it is accidentally injected into the periaarterial tissues. It must be sterile.

While an ideal contrast medium has not yet been found, some of the various compounds which have been tried are approached.

The authors review the history of the development of arteriography beginning with the introduction of lipiodol in 1923. Lipiodol was soon discarded because it was not miscible with blood and it tended to form emboli which led to errors in the interpretation of the roentgenograms. Halogen salts were tried next but most of them were found to be toxic either locally or generally. Organic iodine compounds such as uroselectan have proved unsatisfactory because the injection causes pain, tends to aggravate ischemia, and frequently produces arterial spasm.

The medium found most satisfactory at the present time is the ium diiodide or thorotrast which was originally used for hepatosplenography. However, this substance has a very definite disadvantage. It is eliminated very slowly, being fixed by the reticulo-endothelial system, and it is slightly radio-active. While the dangers of these two disadvantages are chiefly theoretical, the authors believe that arteriography should be reserved for cases in which it will contribute information warranting the risk of the examination. By such study obliteration of the lumina of the principal vessels has been satisfactorily demonstrated. Accurate demonstration of collateral circulation and of the arteriocalillary network has been less successful.

The authors discuss the clinical value of arteriography in detail and compare the findings of the procedure with those obtained with the Lachon oscillogram and other methods of vascular study.

The contraindications to arteriography are renal and hepatic insufficiency, septicemia, and gangrene in which high amputation is generally necessary.

Arteriography may be of value in the cases of young subjects in which the optimum site for amputation is difficult to determine and in cases with out gangrene in which more information is desired regarding the type, site and extent of an obstruction and the collateral circulation.

NATHAN A. WOMACK, M.D.

Iazzaghi R. Arterial Embolotomy (Sull embolia arteriosa) *Chir. chir.* 1935 32 49

The surgical problem presented by aneurysm of the blood vessels has reached its practical solution only comparatively recently. As embolotomy is entirely dependent upon the successful accomplishment of arteriorrhaphy, it has developed *pari passu* with the latter. The author reviews the history of embolotomy and reports two cases in which this operation was performed in his own clinic. He stresses the importance of early diagnosis of embolism and immediate operative removal of the embolus. He then presents a rather extensive discussion of the etiology, pathogenesis, symptoms, diagnosis and prognosis of embolism and the technique of embolotomy. He states that the indications for embolotomy must be considered carefully as persons developing embolism are usually those afflicted with cardiac disease associated with arteriosclerosis and are poor operative risks. MOYER R. REM, M.D.

BLOOD TRANSFUSION

Marriott H. L. and Kekwick A. Continuous Drip Blood Transfusion. *Lancet* 1935 225 977

The authors believe that blood transfusion is not being utilized to its fullest extent to day as the quantities of blood generally administered are small. They point out that the average transfusion of 500 c.c. of blood to an adult raises the hemoglobin by only 8 or 9 per cent. Therefore if anemia is to be overcome effectively the administration of much

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Gillies Sir H. D., and McIndoe A. H. *The Role of Plastic Surgery in Burns Due to Roentgen Rays and Radium* *Ann Surg* 1935 101 979

Cases of radiodermatitis and radionecrosis constitute a formidable group because of the associated pain and distress the intractability of the condition to conservative treatment and their medicolegal importance. Many are a legacy of the times before adequate protection was provided while others are the result of over treatment poor protection or heavy treatment of malignancy. The latent period explains why certain radiologists declare the condition extinct. In the past fifteen years the authors have seen 100 cases and have operated on about 50. The condition is almost always surgical and as some form of graft is usually required it falls within the field of plastic surgery.

The cases are easily classified into the following 3 groups

1 Those in which a single dose was given during a diagnostic procedure or treatment. The fact that in some of these the dose was not excessive suggests an individual susceptibility.

2 Those in which frequent small doses were given over a long period of time for a condition such as lupus, acne, fibroids or gout.

3 Those of professional workers in most of which the condition had its origin before modern protection began.

The effects are produced by the action of the roentgen rays on the cells of the irradiated tissues and may be aggravated by infrared or ultraviolet irradiation. The changes are caused by a progressive vascular obliterative process and a loss of function of cells according to their sensitivity. An excessive single dose may produce acute necrosis with a wide spread inflammatory zone due to secondary infection. In the chronic lesion slow contraction and absorption take place. Ulcers show little evidence of repair. Fixation to underlying muscle tendon or bone is not uncommon. When the chronic lesion is due to repeated small doses the sequence of events is characterized by an *intermittent* change in the quality and function of the skin and a slow depression in its vitality. Some or all of the peculiar features of telangiectasis, pigmentation, thickening and scarring of the corium, atrophy of the skin with disappearance of sweat and sebaceous glands and hair follicles, cracks and fissures, keratosis and malignant growths make their appearance. Telangiectasis appears from one to three years after the damage and pigmentation varies according to the patient's skin. The skin may be smooth and mottled or

leathery and dry. Festerations are common especially on the hand and in the chronic case there is a tendency toward the development of epithelioma.

Pain itching ulceration deformity from contraction cosmetic appearance and epitheliomatous change are the main indications for operation. The treatment consists of excision and repair. Too early grafting in acute or severely infected ulcers is hazardous and often gives poor results. The excision should extend into healthy skin in all directions. Thick razor grafts full thickness grafts and flaps or tubed pedicle grafts may be used depending on the amount of tissue lost the patient's age and sex the position of the defect, the cosmetic result desired and the mechanical problem of transporting the graft to its new position.

The authors prefer the razor graft or the pedicled flap method. They report with illustrations several cases as examples of the variously located lesions and their treatment. THOMAS W. STEVENSON JR., M.D.

Stewart Wallace A. M. *Progressive Postoperative Gangrene of the Skin* *Br J Surg* 1935 22 642

The author reports a case of progressive post-operative gangrene of the skin which occurred as a complication of thoracotomy for empyema. He states that while the disease is rare in England only one other case having been recorded in the literature of that country a review of the literature of other countries disclosed the records of thirty-seven cases. Thirty cases were reported from America.

In the author's case gangrene of the skin was first noted on the sixth day after the operation. The lesion gradually increased in size until at the time of the patient's death thirty-two weeks later it involved the abdomen the left side the left side of the neck and practically the entire back from the occiput to the waist.

Of the thirty-seven cases reported in the literature of countries other than England the gangrene followed the drainage of a purulent infection in thirty-three. In twenty-one of the latter the drainage was established for an appendical abscess and in six for empyema.

The lesion begins with soreness redness and edema about a small part of the wound and gradually spreads. During the second or third week necrosis occurs in the center. Black leathery sloughs are formed which on separating leave a relatively healthy base covered with granulation tissue. The muscles and deeper tissues are not involved. The edges of the lesion are raised undermined and edematous. The process extends slowly but steadily. A marked feature is exquisite tenderness of the active edges. In most cases the tempera-

For carcinoma of the rectum 22 colostomies were done with 3 deaths and 15 extirpations or amputations, with 4 deaths. The cause of death was pneumonia in 3 cases and heart failure in 1.

In 1027 cases in which operation was performed for simple hernia there were 6 deaths, a mortality of 0.29 per cent. The deaths were due respectively to heart failure, cerebral embolism, pulmonary embolism, peritonitis, sepsis and ileus. In 61 cases of operation for simple umbilical hernia there were 4 deaths, a mortality of 7 per cent. These deaths were due respectively to pulmonary embolism, cardiac insufficiency, pneumonia and an unknown cause. In 332 cases in which operation was performed for an incarcerated hernia the mortality was 15 per cent (50 deaths).

One hundred and eight nephrectomies were performed with 9 deaths, a mortality of 8.3 per cent,

and 44 nephropylotomies with 2 deaths, a mortality of 4.5 per cent.

In 190 cases in which prostatectomy was done there were 18 deaths, a mortality of 9.4 per cent. Eight of the deaths were due to ascending infection, 4 to heart failure and 2 to general sepsis. In 93 cases in which only cystostomy was done there were 17 deaths, 10 of which were due to uremia and 2 each to pneumonia, heart failure and pulmonary embolism. Of 91 patients operated upon for bladder stone 5 (5.7 per cent) died, 2 of pulmonary complications and 1 each of uremia, sepsis, and general cachexia.

The Albee operation was done 61 times with 1 death. In 56 cases in which other laminectomies were performed there were 10 deaths, all due to ascending infection of the urinary tract.

(WOLFFMUTH) LEO M. ZIMMERMAN, M.D.

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Bozzetti, G.: The Practical Realization of Stratigraphy (La realizzazione pratica della stratigrafia) *Radiol med.*, 1935, 22 257

"Stratigraphy," a method of roentgenography in which there is a dissociation of the shadows, was first suggested by Vallebona in 1930. It consists essentially in taking roentgenograms at different angles by rotating the X-ray tube about a fixed axis passing approximately through the center of the part under examination, the theory being that the parts in the axis will be reproduced very distinctly whereas the other parts will be reproduced poorly.

The author describes, diagrams, and explains his technique. He states that, while the images are projected at peculiar angles, it is probable that after they have been subjected to further study their interpretation will be improved, especially as stratigraphy is based on mechanical and mathematical principles.

A LOUIS ROSE, M D

Stewart, W. H., and Illick, H. E.: The Advantages of Intensified Oral Cholecystography. *Am J. Roentgenol.*, 1935, 33 624.

The authors state that the shortcomings of the Graham test—faint shadows or questionable indefinite shadows of non-calcified gall stones and especially absence of shadows—may be obviated in large measure by using their method of intensified oral cholecystography. The technique of this method is based upon three factors.

- 1 Increasing and fractionating the total dose of tetra-iodophenolphthalein.

- 2 The free administration of sugar preceding and during the roentgen examination

- 3 The use of a fast Potter-Bucky diaphragm and an exact exposure technique

The technique is described in detail and cholecystograms made by the authors' method and the usual method are compared. The authors believe that the additional time consumed in making the modified test is well compensated for by the accurate detailed information obtained.

ADOLPH HARTUNG, M D

Gallavresi, L.: Roentgenological Study of the Normal and Pathological Satellite Shadows of the Ribs (Studio radiologico delle ombre satelliti costali normali e patologiche) *Radiol med.*, 1935, 22 362

In 1903 Albers-Schoenberg called attention to the presence of a narrow band of increased density, about 2 mm wide, which was seen to follow the inferior margin of the second rib. Because of its characteristics he called it a "satellite shadow of the

second rib." It was usually found to be bilateral. Later observers noted similar configurations in relation to the first and third ribs.

Various interpretations and suggestions have been offered regarding the nature of these shadows. Albers-Schoenberg believed that they represented the compact tissues overlying the apex of the lung, whereas later observers thought them to be due to a thickening of the dorsal apical wall of the lung. Knutsson suggested that they were due essentially to the endothoracic musculature.

After a thorough and systematic investigation of the problem, Gallavresi reaches the conclusion that the pleura contributes also to the genesis of these shadows. He proposes that they be called "pleuro-muscular shadows of the thorax." He discusses the frequency of their occurrence in relation to the various ribs and describes their normal morphological aspects.

He concludes that in pathological conditions the normal relation of the anatomical substrate to the morphological aspect of the shadows is often profoundly altered or entirely abolished. The morbid process with its anatomicopathological manifestations (exudates, infiltrates, neoplasms) may determine to a greater or lesser extent the degree of opacity of the satellite shadow or affect the demarcation of its contour.

The morphological changes of these shadows are not specific in appearance for the various morbid conditions. However, there seems to be a certain, though not constant, parallelism between the character of the morphological change and the mechanism of its formation. Thus, it is much easier to detect altered satellite shadows in proliferative, infiltrative, and cicatricial processes than in conditions such as a pleural effusion. The latter condition is characterized by changes referable primarily to an increase in the width and extension of the shadow without affecting its pulmonary contour.

In the differentiation of normal and pathological satellite shadows, changes in width and extension are of value only when they have reached a certain degree. By carefully comparing both sides valuable information is gained and differentiation may be possible even though the shadows are bilateral.

Changes in the pulmonary contour of the satellite shadows in the form of saw-like indentations or festoons are, on the other hand, always unmistakable indications of the presence of a morbid condition. Certain characteristic triangular configurations are indicative of the presence of accessory lobes.

The site of the shadows is also a valuable criterion. The author attributes a pathological significance to any shadow with an unusual anatomical location.

RICHARD E. SOMMA.

RADIUM

Nicholson D. Types of Malignant Disease Treated by Radium at the Cancer Relief and Research Institute in Manitoba. *Canadian M J* 1935 31: 492

The author reviews 836 cases in which radium treatment was given in the three year period ending March 31, 1934. He makes some general remarks relative to the diagnosis in the different groups and then describes the technique employed in the treatment of each group.

The cases of cancer of the lip, tongue, pharynx, and tonsil are summarized in tables which give the length of time elapsing between the initial symptom or sign and the first treatment, the size of the tumor at the time the patient entered the clinic, the presence or absence of palpable lymph nodes and some of the results. When biopsy was done the cases were graded by Broder's method.

The cases of cancer of the cervix are tabulated with regard to the age incidence of the condition, the stage of development of the lesion according to the international classification and the mortality in the different groups during a two year period. The technique employed in the radium treatment is described and the advantages of combining roentgen irradiation with radium irradiation in cases of cancer of the uterine cervix are discussed.

ADOLPH HARTUNG, M.D.

MISCELLANEOUS

Jorge J. M. and Dietsch J. R. Heliotherapy (Heliotherapia). *Semana med* 1934 41: 1733

Thus is a general review of heliotherapy, beginning with the history which is said to go back to prehistoric days when the cave dwellings were opened toward the south or east to permit entrance of the sun's rays. The history is traced down to the work of Rollier in the treatment of tuberculosis. The mechanism of action of light on the various systems and functions of the body is discussed, and the authors' work at the solarium of Mar del Plata is described with illustration. At Mar del Plata heliotherapy is used largely for tuberculosis. The technique employed is described. It is preferable to give the treatment in the open air in gardens or on beaches, but it can be given also in covered solariums. The patient's head should be covered.

The relationship demonstrated between an excess of cholesterol in cancer tissue and the photoactivity of cholesterol has led Rollier to undertake a crusade against sunshine treatment. The authors believe, however, that heliotherapy is of great value and that if the proper technique is used and the contraindications are observed it does no harm. It is contraindicated by poorly compensated heart lesions, progressive pulmonary tuberculosis, advanced amyloid degeneration and insufficiency of the kidneys and liver. *ANDREY GOLOMAN, M.D.*

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Coonse, G. K., Foisie, P. S., Robertson, H. F., and Aufranc, O. E.: Traumatic and Hemorrhagic Shock. An Experimental and Clinical Study. *New England J. Med.*, 1935, 212: 647

Shock has been divided into primary and secondary shock chiefly on the basis of the clinical findings. Primary shock may be described as a condition of great circulatory collapse which is sudden in onset and usually associated with loss of consciousness. It is often caused by a stunning blow or serious disturbance of the central nervous system, and may be likened to a state of syncope or collapse. Secondary shock is characterized by low arterial blood pressure, a rapid and thready pulse, shallow, rapid, or irregular respirations, general restlessness, an insatiable thirst, coldness and often pulselessness of the extremities, and other evidences of a marked circulatory disturbance. Unlike primary shock, secondary shock is usually associated with a relatively clear mental state. It follows moderate or severe injuries, particularly those involving a good deal of muscle tissue and causing repeated small or severe hemorrhages.

No one theory will explain all of the phenomena observed in secondary shock. Of the numerous factors involved in the development of the condition the most important are depression of the vital centers, loss of blood volume, and the vicious cycle of anoxic acidosis.

On the basis of experimental data it has been found possible to differentiate traumatic and hemorrhagic shock. Traumatic shock is characterized by increasing acidosis and concentration of the blood—a relative increase of cells over serum. In acute hemorrhagic shock, the effects of which are due entirely to loss of circulating blood volume, no acidosis develops and there is a relative increase of serum over cells.

As the blood volume decreases, the effectiveness of the peripheral circulation is steadily diminished. Interference with the function of the vital centers rapidly ensues. Depression of the respiratory center causes a decrease in the chest and abdominal excursions resulting in a diminution of the normal negative intrapleural pressure. The return of blood to the heart is diminished as blood collects in the abdominal viscera and large venous radicals and in the smaller peripheral vessels. The decrease in the oxygen exchange in the periphery tends to create a vicious cycle of increasing anoxic acidosis, the vital centers becoming still further depressed.

The depressing and toxic effects of laked blood and traumatized muscle on the higher centers have

been demonstrated in experiments on animals. Hemolysis has been shown to be constant in traumatic shock.

In the determination of the treatment to be given the differentiation of traumatic and hemorrhagic shock is essential. Acute hemorrhagic shock is best treated by replacing the lost blood with whole blood. However, less severe cases respond satisfactorily to the intravenous administration of saline solution, glucose, or gum acacia. Traumatic shock or slow hemorrhagic shock is best treated by the intravenous administration of alkali or a combination of alkali and whole blood. The alkaline solution not only prevents acidosis but also serves as a direct stimulant to the cells of the respiratory and other centers. Alkali increases the rate of dissociation of oxyhemoglobin and improves the peripheral blood flow. In some cases supplementary inhalations of carbon dioxide and oxygen may be indicated for mechanical and chemical effects.

There is great danger in the administration of large doses of morphine in the treatment of shock, especially in the later stages. In this condition morphine diminishes the function of vital centers already seriously depressed. The harmful effect of large doses of morphine far outweighs their beneficial effect—the reduction of painful sensory stimuli.

SAMUEL KAHN, M.D.

Orbach, E.: The Pathogenesis of So-Called "Traumatic Edema"—Neurotic Acro-Edema (Ueber die Pathogenese des sogenannten "traumatischen Oedems"—neurotisches Akrooedem). *Monatsschr. f. Unfallheilk.*, 1934, 41: 481.

The author refers, not to the ordinary traumatic edema of the dorsum of the hand or foot which disappears sooner or later, but to that which persists permanently, varies in severity, and is independent of the gravity of the injury, occurring at times after quite trivial traumas. Among others, Patry, Fischer, and Kaufmann, have claimed that it is usually false. The author differs with them on the basis of a case which he reports in detail. As section in this case revealed nothing pathogenetic, the traumatic edema was believed to be the result of a hysterical paralysis of the arm.

On the basis of findings in apoplectics, the work of Anton, Bing, and others, and demonstrations in the field of neurology, Orbach concludes that so-called traumatic edema is a trophoneurosis of the autonomic nervous system (Kienbock, zur Verth). There are two forms: (1) that which is caused by considerable trauma and produces an irritative condition in a certain part of the peripheral nervous system which in turn provokes abnormal reflexes in the vasomotor tracts (Braeucker), and (2) the so-called neurotic

acro-edema (Orbach) which shows no evidence of somatic trauma and occurs only in neuropathic persons, in whom it leads to loss of control of the deep vasomotor centers

(FRANZ) EDM ZIMMERMAN MD

Ahlbom H E. So Called Mixed Tumors of the Mucous and Salivary Gland Type Occurring in the Skin and Subcutis and Their Treatment (In der Haut und Subcutis lokalisierte sog. Misch-tumoren vom Typ der Schleim- und Speicheldrüsengeschwülste und ihre Behandlung) *Acta radiol* 1915 16 178

So called mixed tumors of the parotid type occur in the skin and subcutis. They are usually benign. They are most frequent in the skin of the face but occasionally are found on the trunk and extremities. Two such tumors on the face and one on the sole of the foot have been treated at Radiumhemmet. In all a certain degree of malignancy was demonstrated by histological examination.

Clinically these malignant so called mixed tumors may be taken for skin cancer of the common types. As in cases of mucous and salivary gland tumors in general radiosurgery is the best method of treatment. Tumors consisting partly of myxomatous and partly of cartilage like tissue are usually only slightly radiosensitive. However certain tumors with a more simple structure such as fibro-epitheliomas may be radiosensitive and therefore treated successfully by irradiation alone.

Hintze A. Where Are We Steering in the Treatment of Cancer? Reflections on the Most Successful Methods of Treatment (Wohin steuern wir mit der Krebsbehandlung, Betrachtungen ueber die erfolgreichsten Behandlungsmethoden) *Deutsche und Schweizer* 1934 2 2910

In general the limits of the operative treatment of cancer were recognized at the turn of the century at least to the extent that they could be determined from the mortality of major operations and the incidence of three year freedom from recurrence in several of the larger groups of cases such as those of cancer of the breast and those of cancer of the uterus. In the three subsequent decades it was possible in cases of certain types of tumors for only a few especially experienced surgeons to lower the primary mortality further to any considerable extent. With regard to permanent results from operative treatment the limits were believed to be quite narrow. During this period irradiation therapy became widely used, at first for inoperable tumors and inoperable recurrences. In the treatment of skin cancer it was widely employed even in operable cases. In many places it was used in preference to surgery also in operable cases of cancer of the cervix with good results. The longer delay in its application to cases of operable malignant tumors is explained by the variety of conditions and the greater difficulties presented in such cases and the at first apparently unreliable results of irradiation. With increasing

experience and improvement in the technique of the treatment a change with a definite direction and significance has taken place. Our observations show us the course to pursue and we already see in the distance the goal towards which we are striving.

In the Surgical Clinic of the University of Berlin and the associated Poentgen Radium Institute during the years 1912 to 1930 inclusive, 37.5 per cent of the skin carcinomas and 45.8 per cent of the breast carcinomas were treated exclusively by surgery. In the years 1928 to 1932 inclusive 10.8 and 13.5 per cent of these tumors respectively, were treated by surgery alone and 89.2 and 86.5 per cent respectively were treated by irradiation alone or combined.

Similar changes occurred in the treatment of sarcoma. In the period from 1914 to 1927 inclusive 30.8 per cent of the cases were treated by surgery alone, whereas in the period from 1928 to 1930 inclusive, 12.6 per cent were treated by surgery alone and 87.4 per cent were treated by irradiation alone or combined.

The percentage of cases of carcinoma of the mucous membranes treated by surgery alone also decreased considerably in the second period. The incidence of radical operation decreased from 59.3 to 40.1 per cent and that of palliative operation from 90.8 to 61.1 per cent. In the period from 1928 to 1930, inclusive 49.1 per cent of the cases of carcinoma of the mucous membranes were treated exclusively by operation and 50.9 per cent by irradiation alone or combined. In the period from 1914 to 1927 inclusive treatment by irradiation alone was given in only 12.9 per cent of the cases whereas in the period from 1928 to 1930 inclusive it was given in 42.9 per cent.

In the second period more than half of all cases of carcinoma of the skin and sarcoma were treated exclusively by irradiation whereas of the cases of carcinoma of the mucous membranes more than 57 per cent and of the cases of carcinoma of the breast nearly 83 per cent (practically all operable cases) were still treated first by radical operation. The increasing use of irradiation in the treatment of cancer was justified by increasing improvement in the results.

In cases of carcinoma of the skin the end results obtained by primary irradiation have been better than those obtained by primary operation. Of the cases treated by primary operation in the period from 1912 to 1927 inclusive freedom from symptoms for five years was obtained in 54.1 per cent but irradiation for recurrence was necessary in one third, whereas of the cases treated by primary irradiation a five year cure was obtained in 46.0 per cent in spite of the fact that these cases included all those which were inoperable. A higher incidence of successful results from primary irradiation has been reported only by Nielsen of Copenhagen (50 per cent from treatment with radium alone) and from 2 dermatological clinics (Viesacher 51.4 per cent from roentgen treatment, and Arzt and Fuhs 54.5 per cent from

radium irradiation sometimes supplemented by electrocoagulation)

A skin carcinoma which is not too extensive or too deep is destroyed most conservatively and permanently by irradiation. As a rule superficial lesions require only 1 irradiation. This may be given with equally good results with the roentgen rays, radium, or a radium substitute. Large and deep tumors are best treated by first reducing the size of the neoplasm by roentgen irradiation and then destroying the remainder with radium. In certain cases of advanced growth, especially those with extensive bone involvement, wide removal of the destructive lesion by surgery is indicated in addition to the irradiation. Plastic covering of the defect should not be attempted for some time. Irradiation improves the results of operation not only by preventing and destroying recurrences, but also by removing the less favorable cases from the operative group. Irradiation is an important aid in the improvement of the end-results of operation.

(ARTHUR HINTZ) LLO M ZIMMERMAN, M D

Paviot, J., Levrat, M., and Guichard, A.: Eosinophilia of the Blood in Cases of Malignant Tumor. A Case of Perirenal Reticulosarcoma with Eosinophilia of the Blood and of the Tumor. (*L'éosinophilie sanguine des tumeurs malignes. A propos d'un cas de réticulosarcome péricrénal avec éosinophilie sanguine et tumorale*) *Ann d'anat path*, 1935, 12 113

The case reported was that of a man fifty-five years of age who came for treatment for a tumor in the left hypochondrium. Operation disclosed a large tumor completely enveloping the left kidney. On histological examination the neoplasm was found to be a reticulosarcoma containing large numbers of eosinophiles. The blood showed 90,000 leucocytes, 74 per cent of which were eosinophiles. Of the latter, 46 per cent were polynuclear eosinophiles and 28 per cent young eosinophile monocytes. The tumor tissue presented a whole range of eosinophile cells, including normal polynuclear eosinophiles, polynuclear eosinophiles with only a few granules, free monocytes with eosinophile granulations, and reticulate cells, endothelial cells, and fibroblasts, all containing oxyphile granulations. Some of these, in their form and structure, with their clear and elongated nuclei, resembled reticulo-endothelial cells. The authors believe that there must have been some connection between this series of eosinophile cells in the tumor and the enormous eosinophilia in the blood. The condition could hardly have been the chance association of an eosinophile leukemia and a reticulosarcoma as both are too exceptional for them to have occurred together by chance. The tumor must have been the direct cause of the eosinophilia.

Only a few cases of malignant tumor accompanied by an extremely high eosinophilia have been reported in the literature. The authors give brief abstracts of the records of ten cases which were all

they were able to find in the literature. In none of these cases were there any of the usual causes of eosinophilia. Examination for parasites was negative as in the authors' case. The eosinophilia was not confined to any special histological type of tumor.

There are two theories with regard to the development of eosinophilia in the blood in malignant tumor: one, that the eosinophiles are produced in the bone marrow and carried to the tumor secondarily, the other, that they are formed directly in the tumor by eosinophile transformation of the connective tissue cells of the tumor, the newly-formed eosinophile cells then passing into the blood. The authors' case with its whole range of eosinophile cells in the tumor and the many mononuclear eosinophiles in the blood supports the second hypothesis.

AUDREY GOSS MORGAN, M D

Daniel, G., and Babès, A.: Liposarcoma with Metastases. The Abdominal Liposarcoma with Ovarian Metastases (Du liposarcome avec métastases. Le liposarcome abdominal avec métastases ovariennes) *Gynécologie*, 1935, 34 5

Liposarcoma and malignant lipoma are rare, and metastases from such tumors are very unusual. In the literature the authors were able to find only one case of liposarcoma with metastases (reported by Nienhuis in 1925) and one case of malignant liposarcoma with metastases (reported by Lubarsch in 1925).

The authors report a case of liposarcoma with metastases which occurred in a woman forty-three years of age. The chief symptoms and signs were ascites, marked weakness, and chronic constipation. Examination disclosed a pelvic tumor. The neoplasm was diagnosed as a tumor of the right adnexa and believed to be malignant. At operation, a tumor of the great omentum was found. The patient died five days after the operation. Pathological examination showed the neoplasm to be a liposarcoma primary in the great omentum which had formed metastases in the ovaries, fallopian tubes, and broad ligaments.

In the case reported by Nienhuis the site of the primary tumor was not determined. The mesentery, retroperitoneal tissue, pancreas, mediastinum, dura mater of the brain and spinal cord, and marrow of the femur were involved. In the case reported by Lubarsch the primary tumor developed in the kidney and formed numerous metastases.

The authors believe that in their case the metastases were due to direct transplantation. The metastases in the ovary invaded the entire organ and were very evidently malignant. The histological findings were similar to those in the case reported by Nienhuis. The cells were definitely of adipose tissue origin. They were of two types: (1) immature lipoblastic adipose tissue cells, and (2) cells grouped in vesicles which showed a marked polymorphism and contained fat. Among the latter were many large cells with multiple nuclei. The metastatic tumors showed numerous lipoblasts.

Lipoblasts are the characteristic cells of liposarcoma. The adipose vesicles with polymorphic cells (largely giant cells) which were found in the authors' case were not noted in the case reported by Nielsen.
AURE M. MEYER

DUCTLESS GLANDS

Kutscherenko, P. A. and Maislisch, R. M. Anatomical Insufficiency of the Parathyroid Glands and Symptoms of Spasmophilia in Cases of Blastoma (Die anatomische Insuffizienz der Glandulae parathyroideae und Anzeichen von Spasmophilie bei Blastomkranken). *Acta med Scand* 1935 23, 89.

A careful pathologicomorphological study of blastoma material showed that, in addition to the characteristic changes in the endocrine system in general, there were definite indications of anatomical insufficiency of the parathyroid glands. The latter included a smaller than normal number of parathyroid glands (two instead of four in most cases), small size, and very frequently congenital dysplasia of those glands, and the occurrence in young persons of certain histological and cytological changes characteristic of old age. Acidophilia of the parathyroid glands was found in about 66 per cent of the cases

and fibroclerosis and lipomatosis of the stroma were present in about 75 per cent. Consideration of all of the findings indicated that insufficiency of the parathyroid glands was present in about 80 per cent of the cases.

This insufficiency of the parathyroid glands led to the conclusion that the clinical symptoms of blastomatosis may include also symptoms of spasmophilia. This conclusion was supported by clinical observations.

The diagnosis of spasmophilia should be based not only on physicochemical findings but also and especially on clinical evidences of neuromuscular irritability, such as the Chvostek, Weiss and Trousseau signs.

Of the cases of blastoma studied, symptoms of spasmophilia were present in about 81 per cent. In other conditions they were much less common, their incidence in pregnancy being 43.3 per cent, in ulcer 32.2 per cent, and in normal persons 5 per cent.

These clinical symptoms are in complete agreement with the pathologicomorphological changes in the parathyroid gland.

In addition to the other symptoms and the usual biological tests, the symptoms of a latent spasmophilia may be of aid in the differential diagnosis of malignant tumors.
JOHN W. BRENNAN, M.D.

BIBLIOGRAPHY of CURRENT LITERATURE

NOTE—THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

Head

A contribution on fractures of the skull B G HERZBERG, N. N. MALINOVSKY, and E M FLAT Vestnik Khir, 1934, 36 119

Secondary neoplasms of the vault of the cranium from the roentgenological point of view F CARDILLO Radiol med, 1935, 22 205 [119]

Cavernous sinus thrombosis of dental origin B P MORGENSEN Arch Otolaryngol, 1935, 21 442

Cavernous sinus embolism and thrombosis D P. MACGUIRE Internat J Med & Surg, 1935, 48 114

Thrombophlebitis of the lateral sinus C MERCANDINO and G AVILA Rev Asoc med argent, 1935, 49 28

Experiences in the surgery of the lateral sinus and internal jugular vein M F MCCARTHY West Virginia M J, 1935, 31 171

Acute inflammation of the temporomandibular joint, its sequelae and treatment M WASSMUND Deutsche Zahn-usw Heilk, 1935, 2 16

Parotitis K KAMNIKER Chirurg, 1935, 7 45

The treatment of complicated fractures of the jaw A BICHLMAYR Med Welt, 1935, p 158

Double fracture of the chin and its treatment A REHRMANN Deutsche Zahn-usw Heilk, 1935, 2 122

Odontogenous osteomyelitis of the lower jaw G I FODOR Orvosképzés, 1934, 24 169 [119]

A report of eleven instances of adamantinoma, with a review of the malignant cases in the literature L MCGREGOR Acta radiol, 1935, 16 254 [120]

Autogenous bone grafts in the repair of destructive lesions of the jaw DUFOURMENTEL Bull et mém Soc d chirurgiens de Par, 1935, 27 82

A roentgen study of diseases of the sublingual and submaxillary glands E SIMON Zentralbl f Chir, 1935, p 162

Eye

Observations on 4,000 optic foramina in human skulls of known origin J E L KEYES Arch Ophth, 1935, 13 538

Photography of the eye with the miniature camera R CASTROVIEJO Am J Ophth, 1935, 18 353

A modified stereoscope J B FELDMAN Am J Ophth, 1935, 18 360

A simple device for measuring stereopsis M DAVIDSON Am J Ophth, 1935, 18 356

Some of the changes found in the eyes in the control and treatment of which the general practitioner and the eye physician should co-operate T D ALLEN J Michigan State M Soc, 1935, 34 219

The calculation of loss of vision J A C GABRIELS Arch Ophth, 1935, 13 635

Bilateral absorption of intra-ocular copper with chalcosis in one eye F C CORDES and D O HARRINGTON Am J Ophth, 1935, 18 348

Some diseases of the eye common in children G. G. PENMAN Practitioner, 1935, 134 538

Limitations of silver nitrate in ophthalmia neonatorum. L LEHRFELD J Am M Ass, 1935, 104 1468

The etiology of exophthalmos Constitutional factors, with particular reference to exophthalmic goiter W A PLUMMER and R M WILDER Arch Ophth, 1935, 13 833 [120]

Ocular tuberculosis M L DILLON West Virginia M J, 1935, 31 145

Transient fluctuations in the scotoma of glaucoma J N EVANS Am J Ophth, 1935, 18 333

The use of sclerosing solutions in ophthalmic therapeutics M F WEYMANN Am J Ophth, 1935, 18 323

Evipan in ophthalmic surgery T K LYLE and F G FENTON Brit M J, 1935, 1 763

Sodium evipan anesthesia in ophthalmic surgery I L JOHNSTONE Brit M J, 1935, 1 761

A case of epithelioma of the eyelid E PALMIERI Rassegna internaz di clin e terap, 1935, 16 194

Temperature changes in the conjunctiva in relation to the application of heat and cold to the skin G H GOWEN Am J Ophth, 1935, 18 331

Conjunctivitis, report of a clinical and bacteriological investigation I C MICHAELSON Glasgow M J, 1935, 123 185

Pseudo-orbital tumor in diabetes V. LA ROCCA Med Rec, 1935, 141 338

Orbital teratoma E W O'G KIRWAN Brit J Ophth, 1935, 19 201 [121]

Intensity of light in relation to the near point and the apparent range of accommodation C E FERREE and G RAND Am J Ophth, 1935, 18 307

Fatigue of convergence induced by reading as a function of illumination intensity M LUCKIESH and F K MOSS Am J Ophth, 1935, 18 319

Lectures on motor anomalies of the eyes III Paralysis of the conjugate movements of the eyes A BIELSCHOWSKY Arch Ophth, 1935, 13 569 [121]

Muscle imbalance in myopia F W MARLOW Arch Ophth, 1935, 13 584

Ocular divergence, its physiology and pathology G M BRUCE Arch Ophth, 1935, 13 639

A device for the training of children to overcome strabismus squint R T PATON Arch Ophth, 1935, 13 636

Salzmann's nodular corneal dystrophy, its pathological process and a suggested therapy E V L BROWN and D KATZ Arch Ophth, 1935, 13 598

Lipin interstitial keratitis P HEATH Arch Ophth, 1935, 13 614

Fractional sterilization by heat in corneal ulceration N H TURNER Virginia M Month, 1935, 62 23

Posterior lenticonus, report of a case I H LEO Brit. J Ophth, 1935, 19 210

The medical treatment of senile cataract A E DAVIS Med Rec, 1935, 141 323, 367

- Dislocation of Soemmerring's ring: report of a case M W JACOB and B J WOLFMAN Arch Ophth, 1935 13 634
- Entoptic phenomena associated with the retina C R MAX HALL Brit J Ophth 1935 19 177 [123]
- Retinal detachment B F HAER JR and J S SHAWMAN Pennsylvania M J 1935 38 473
- Retinal detachment F E BLANCH Minnesota Med 1935 18 201
- Detached retina with complications W L CINSOV Med J Australia 1935 4 463
- The treatment of detachment of the retina A T ISTRADA Gac. med. de México 1934 65 230
- The present status of the treatment of detachment of the retina H ARKUDA Arch Ophth 1935 13 523 [123]
- Electrocoagulation for retinal detachment J C PETER Pennsylvania M J 1935 38 473
- Tuberculous and streptococcal retinal hemorrhages C M SWAN Arch Ophth 1935 13 60
- Reflex spasm simulating embolus of the central retinal artery W F SUTER Am J Ophth 1935 18 359
- Symptheloma for retinitis pigmentosa A F MAC DO ALD and A G MCKENZIE Arch Ophth 1935 13 362 [123]
- Removal of the stellate ganglion for retinitis pigmentosa F B LA ROSA Rassegna intern. clin. e terap 1935 16 211
- Epilepsy and cystic degeneration of the retina M VICTORIA and J L PAVIA Semana med 1935 42 751
- Hyaline bodies on the disks F C FLEMMER Int J Ophth 1935 19 215
- Glossoma of the optic nerve: report of a case C WES KAMP Arch Ophth 1935 13 630

Ear

- Hearing reclamation and preservation in the moderately deafened child J P FOWLER New York State J M 1935 35 354
- The association of toxic deafness with toxic amblyopia due to tobacco and alcohol F D CARROTT and P F IRELAND Arch Otolaryngol 1935 21 459
- Otosclerosis in twins G E SHAMBLUGH JR J Am M Ass 1935 104 1216
- Two cases of otosclerosis palati et ca D W ACHEROFF J Laryngol & Otol 1935 50 263
- Meningeal symptoms complex: medical treatment A C FURSTENBERG F H LASHMET and F LATHROP Ohio State M J 1935 31 63
- Influenza labyrinthitis without suppurative otitis media A B SMITH J Laryngol & Otol 1935 50 263
- Otitis media and mastoiditis due to pneumococcus Type III F F SCHARF Canadian M Ass J 1935 32 376
- The treatment of chronic suppurative otitis media A M DAY Pennsylvania M J 1935 38 495
- A case of petrositis K W CRUPP J Am M Ass 1935 104 1225
- Acute otitis media petrositis operation, cure P L FREERARY I BERGARA and C BERGARA Rev Assoc med argent 1935 49 70
- The treatment of malignant tumors of the middle ear at Radiumhemmet Stockholm I THORELL Acta radiol 1935 16 242 [124]

Nose and Sinuses

- Hypertrophic rhinitis (hay fever): treatment by avianization C M MILLER Virginia M Month 1935 62 11
- Ionization as a prolonged palliative in vasomotor rhinitis A R HOLLENDER Arch Otolaryngol 1935 21 448

- The prognosis of nasal surgery I FAWCETT West Virginia M J 1935 31 177
- An improved packing for septum resections permitting nasal respiration S H GINOLL Arch Otolaryngol 1935 21 466
- The diagnosis and treatment of acute sinusitis F H HOSVYR J Lancet 1935 55 242
- Osteomyelitis of the frontal bone F CAMPS and A AGRA Rev Assoc med argent 1935 49 4
- The problem of chronic fronto-ethmoiditis C A HILTON Sov J Roy Army M Corps Lond 1935 64 235
- Endoscopic examination of the maxillary sinus J LAYERS and F P MASSE Rev Assoc med argent 1935 49 25
- Laryngectomy W A RAUNER South M J 1935 28 324

Mouth

- Fundamental principles of plastic surgery of the face J F FORB Texas State M J 1935 37 761
- The use of free fat in plastic surgery of the face H J VON BRANDT Deutsche Wochenschr f Chir 1934 144 418
- Some diseases of the oral mucosa H FOL Iennyl vania M J 1935 18 475
- Cleft palate J K CAMER Bull et mem Soc nat de chir 1935 61 453
- Is there a traumatic cleft palate? G AXHUSEN Deutsche Zahn u w Hrk 1934 1 340
- Anomalies in the position of the teeth in cleft lip and palate A BERGSCHEIDER 1934 Muenster W Dissertation
- New operative technique for cleft palate the pterygoid displacement of Lemberg L DUFOURMONT L Bull et mem Soc d chirurgiens de Par 1935 27 130
- A mixed salivary tumor of the palate H STORIE, Proc Roy Soc Med Lond 1935 28 739
- Black hairy tongue H F K STREPHENS Brit J Surg 1935 21 877

Pharynx

- Zenker's diverticulum J M DE CASTRO Med rev mex 1935 25 739
- Microscopic pathology of the palatine tonsil H D SMITH Arch Otolaryngol 1935 21 426
- A survey of tonsillectomy and adenoidectomy in scarlet fever C P SHAW New England J Med 1935, 212 665

Neck

- Studies in the embryology and histology of the ductless glands III The thyroid G A WATTS Med Rec New York 1935 141 360
- The effect of pneumothorax and eleuthorax on the histological structure of the thyroid gland A C ARNOTT A M GOODWIN S MLETZER and F STEPHENSON Arch Surg 1935 10 667
- The effect of the thyroid gland on hematopoiesis J BONOS and C L ONICER Orvosi hetil 1935 93
- Hormonal symptomatology of the thyroid: To what extent is it explicable on the basis of altered metabolic rate? J H MEANS and J LERMAN Endocrinology 1935 19 181
- Atypical thyroid disorders O P J FALK J Missouri State M Ass 1935 32 141
- Bizarre symptoms of hypothyroidism J W HINTON Am J Surg 1935 28 66
- Hypothyroidism H G SLOAN Ohio State M J 1935 31 261

Hyperthyroidism complicated by heart disease M B WHITTEN and G D MAHON, JR South M J, 1935, 28. 360

Hyperthyroidism treated by irradiation J J QUINCY Pennsylvania M J, 1935, 38 480

Röntgen therapy versus surgery in the treatment of hyperthyroidism J T FARRELL, JR Pennsylvania M J, 1935, 38 484

Congenital goiter B HAMNE Nord med Tidsskr, 1934, p 1562.

Increase in the circulation rate produced by exophthalmic goiter compared with that produced in normal subjects by work W M BOOTHBY and E H RYLANDERSON Arch Int Med, 1935, 55 547

Histological study of the thyroid gland in Basedow's disease H BECK, 1934, Tuebingen, Dissertation

The treatment of Basedow's disease and hyperthyroidism with fluorine L GOLDBERG Bruxelles-méd, 1935, 15 519

Acute hemorrhagic infarction of the thyroid. M PRATES Klin Wchnschr, 1935, 1 168

The diagnosis and treatment of malignant struma F DE QUERVAIN Bull Schweiz Ver igg Krebshepf, 1934, 1 273 [124]

Gingival metastases of a hemangio-endothelioma of the thyroid gland H MATTI Schweiz med Wchnschr, 1935, 1 59

A contribution on malignant tumors of the thyroid D A MÜLVHILL Deutsche Ztschr f Chir, 1934, 244 71 [124]

Cancer of the thyroid gland J. A ALVAREZ Cirug y cirujanos, 1935, p 45

The prognosis of thyroid cancer. H M. CLUTE and S. WARREN Surg, Gynec & Obst, 1935, 60 861

Complete thyroidectomy in advanced heart disease G H PFATT Am J Surg, 1935, 28 85

Total thyroidectomy for cardiac disease R. PUGLIESE Presse méd, Par, 1935, 43 527

Total removal of the thyroid gland in the treatment of angina pectoris and certain diseases of the heart G GUADAGNO Rassegna internaz di clin e terap, 1935, 16 155

Total ablation of the thyroid gland in the treatment of angina pectoris and congestive heart failure J HEPBURN Canadian M Ass J, 1935, 32 390

Hemorrhage during operations, especially thyroidectomy. A R SHORT Brit M J, 1935, 1 202

Parathyroidectomy G BENDANDI Riforma med, 1935, 51 255

Postoperative bilateral abductor paralysis W F ZINN Ann Otol, Rhinol & Laryngol, 1935, 44 164

Tuberculosis of the larynx C HIRSCH Laryngoscope, 1935, 45 260

Ossification (so-called calcification) of normal laryngeal cartilages mistaken for a foreign body W E CHAMBERLAIN and B R YOUNG Am J Roentgenol, 1935, 33 441

Malignant disease of the larynx and pharynx R STEWART-HARRISON and R SARASIN J Laryngol & Otol 1935, 50 233 [126]

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings: Cranial Nerves

Encephalography, with a report of cases P T CPOBAY U S Nav M Bull, 1935, 33 225

Experimentally increased intracranial pressure W BRODGEN, F A METTLEP, and E CULLER Arch Otolaryngol, 1935, 21 464

The effect of processes decreasing the intracranial space and their significance in diagnosis, operability, and prognosis B OSTEPTAG Med Welt, 1934, p 1801

Physiology, pathology, and treatment of craniocerebral injuries W McK CRAIG New England J Med, 1935, 212 777

Acute cerebellar abscess, report of a case G E SHAMBAUGH, JR Arch Otolaryngol, 1935, 21 406

The history of the surgical treatment of otogenic abscess of the brain L M DAVIDOFF Laryngoscope, 1935, 45 295

Tumor of the brain as met with in general practice L B COX Med J Australia, 1935, 1 425

Brain changes in pearly tumor J DRETTLER Bull internat de l'Académie Polonaise de sc et d lettres, 1934, p 543

Papilloma of the cerebellopontile angle J C MONTANARO and J L HANÓN Semana méd, 1935, 42 873

Tumors of the olfactory lobes F K KESSEL Monats-schr f Psychiat, 1934, 90 94

Parosmia in tumorous involvement of the olfactory bulbs and nerves H A PARKING Arch Neurol & Psychiat, 1935, 33 835

The cells of a metastatic adeno-epithelioma of the dura mater The part played by the microglia G MARINESCO and M GOLDSTEIN Ann d'anat path, 1935, 12 101 [127]

Recurrence of sellar tumor following operation, changes in the visual field following deep roentgen therapy. L

PAVIA Rev oto-neuro-oftalmol y de cirug neurol, 1935, 10 25

Surgery of the brain C M. BENFEND Med Welt, 1934, p 1799

Operations on the brain and general surgery, with particular reference to the anatomy and physiology of the cerebrospinal fluid F SCHOERCHER Muenchen med Wchnschr, 1934, 2 1924

Observations following left (dominant) temporal lobectomy, report of a case J C FOX, JR., and W J GERMAN Arch Neurol & Psychiat, 1935, 33 791

Traumatic staphylococcal meningitis, intraspinal injection of bacteriophage, recovery BARTHLEMY Bull et mém Soc nat de chir, 1935, 61 321

Three years' experience with acetylene inflation of the subarachnoid space in purulent meningitis, orbital puncture O ZELLER Muenchen med Wchnschr, 1935, 1 47

Spinoventricular lavage in the treatment of meningitis following cranial injury C DAMBRIN, L DAMBRIN, and P DAMBRIN Bull et mém Soc nat de chir, 1935, 61 317

Chronic hydrocephalus following amputation of a meningocele, observations twelve years after the operation L STONE J Oklahoma State M Ass, 1935, 28 113

The visual pathways in man, with particular reference to macular representation W. PENFIELD, J P. EVANS, and J A MACMILLAN Arch Neurol & Psychiat, 1935, 33 816

Further report on a case of trigeminal neuralgia J H BAPCLAY Brit J Surg, 1935, 22 887

The treatment of trigeminal neuralgia, with especial reference to alcohol injection C W. FLYNN South M J, 1935, 28 330

The palliative treatment of tic douloureux. E J ENGEBERG Minnesota Med, 1935, 18 229

The treatment of hyperkinesis of the face with alcoholization of the facial nerve and muscles A S TIGHELEVSKY Vestnik Khir 1934 36 14

Postnarcotic paralysis of the facial nerve M T SIZYTA Vestnik Khir 1934 36 10

Spinal Cord and Its Coverings

The relationship of syringomyelia to accidents and war injuries A KALLER Arch f Orthop Chir 1934 35 34

Appreciation of the operative treatment of syringomyelia A S TIGHELEVSKY Vestnik Khir 1934 35 111

Complete spastic paraplegia due to metastatic abscess in a case of chronic osteomyelitis of the femur: spontaneous recovery T F JAMMAN J Bone & Joint Surg 1935 17 465

Pott's paraplegia: prognosis and treatment H J SEDGWICK Brit J Surg 1935 22 760

Paraplegia in Pott's disease: with special reference to the pathology and etiology R W BUTLER Brit J Surg 1935 22 758 [127]

Plastic operations on the dura for the treatment of arachnitis adhesiva spinalis E RECH Zentralbl f Chir 1935 p 5

Concerning the symptomatology and diagnosis of extramedullary tumors of the spinal cord I JELINA Arch tuckv M J 1935 33 181

The surgical treatment of intramedullary neoplasms F SIEBERROCH and F HARTMAN Schweiz med Wchnschr 1935 1 26

Peripheral Nerves

Tumor of the ulnar nerve A MONTEIRO and A FRALHO Bull et mém Soc nat de chir 1935 61 330

Sympathetic Nerves

The rôle of the sympathetic nervous system in the production of tissue necrosis A U SOZOV TARO HEVITCH Vestnik Khir 1934 35 152

The treatment of spasmodic dysphagia by sympathetic denervation L ROGERS Brit J Surg 1935 22 839

Sympathectomy in the treatment of achalasia of the cardia G C FENNER Brit J Surg 1935 22 864 [128]

The cure of gangrene of the extremities by chemosympathectomy A ADLER Zentralbl f Chir 1934 p 2910

Miscellaneous

A comparative study of modern methods of surgical diagnosis: results of ventriculography M BALADO and R CAPRILLO Semana méd 1935 42 71

The relief of pains of the locomotor system by local injections of radon oil with control by X rays J FORESTIER South M J 1935 29 299

A contribution on the common genesis of congenital paralysis of the diaphragm and torticollis F RUTICER Arch f Orthop Chir 1934 34 628 [129]

SURGERY OF THE THORAX

Chest Wall and Breast

Osteoma of the ribs JEANNENEY and CHABÉ, J de méd de Bordeaux 1935 112 152

The causes of mammary secretion during pregnancy and in the absence of pregnancy F W WYLLIE Med Klin 1934 2 990

The function of the breast following plastic operations F REESE Zentralbl f Chir 1934 p 3011

Clinical and pathological consideration of the more common lesions of the breast W A WELBROCK J South Carolina M A 1935 31 70

Unusual hisological picture of chronic traumatic mastitis in a man G CANALISI Rasscigna internaz di clin e terap 1935 10 124

Secondary ulceration of the breast treated by Todd's method (selenium injections followed by X rays) F HERNIMAN JOHNSON Proc Roy Soc Med Lond 1935 28 758

Schimmelbusch's disease of the breast and Dr A Lacazeigne's experiments on mice SIE L CREATLE Brit J Surg 1935 22 710 [130]

The pathogenesis of Paget's disease of the nipple and associated lesions SIE R MILLER Brit J Surg 1935 22 725 [130]

Some surgical considerations of tumors of the breast G ALIN Internat J Med & Surg 1935 43 122

Cancer of the breast M CILLER Canadian M Ass J 1935 32 383

The degree of malignancy of breast carcinomas as judged from the histological picture A KRISTOFF Med Rev Bergen 1934 51 551

The treatment of mammary cancer H M MORAN Med J Australia 1935 1 424

Operability of carcinoma of the breast A C HUNT Northwest Med 1935 34 120

Inoperable carcinoma of the breast with skin of the "peau d'orange" type treated by Todd's method of selenium injections combined with roentgen ray exposures F HERNIMAN JOHNSON Proc Roy Soc Med Lond 1935 28 758

The prevention and treatment of metastases in carcinoma mammae Proc Roy Soc Med Lond 1935 28 681

Discussion on the prevention and treatment of metastases in carcinoma mammae A T TOWN and G SCOTT H COKE N S FRIZI and others Proc Roy Soc Med Lond 1935 28 681

Postoperative prognosis in cancer of the breast: results after from seven to twenty years in a series of cases studied with reference to the rapidity of preoperative growth F MACDONALD Arch Surg 1935 30 69

The sea pine: a postoperative dressing following radical mastectomy T HAROLD J Med Ass Georgia 1935 22 119

Breast amputation: A draping canopy and forearm holder for use in these cases G S FOSTER Internat J Med & Surg 1935 43 125

Trachea Lungs and Pleura

The tracheal cannula: its form and use T HILMER MANN Internat Zentralbl f Chir 1934 30 193

Some hindrances in the performance of inferior tracheostomy with reference to disturbed anatomy of the trachea A S FURZE Mitt a d Grenzgeb d Med u Chir 1934 43 525

Tracheal diverticulum: Observations on a cadaver and results of histological study E F ZIEGLER Arch Otolaryngol 1935 21 474 [131]

Atraheobronchial endoscope J M ROBINSON Arch Otolaryngol 1935 21 465

- The relationship of bronchoscopy to thoracic surgery J A DOWNING J Iowa State M. Soc, 1935, 25 192
- Experimental study on pulmonary arteriography G BLOCH and S ZANETTI Radiol med, 1935, 22 267
- The technique of bronchial lavage M M MINTER South M J, 1935, 28 328
- The rate of absorption of alveolar gases in relation to hyperventilation K E LEMMER and E A ROVENSTINE Arch Surg, 1935, 30 625
- Traumatic chylothorax BRAVO, DÍAZ-CANEDO, and HUERTAS Med Ibera, 1935, 19 379
- Spontaneous hemopneumothorax. D STAFFIERI Rev med d Rosario, 1935, 25 29
- Vascular changes in experimental atelectasis Morphological, physiological, and biochemical W E ADAMS, L HEDINA, and L E DOSTAL J Thoracic Surg, 1935, 4 377. [131]
- Experimental study on pulmonary prolapse O BETTO Arch ital di chir, 1935, 39 361
- Pathological conditions of the azygos lobe and their roentgenological interpretation. R BLASI Radiol med, 1935, 22 312
- The lobar form of pulmonary syphilis N N STORCHITZA and V CRETZU Arch méd-chir de l'appar respir, 1935, 10 1 [131]
- The surgical treatment of pulmonary infection H L BEYE J Iowa State M Soc, 1935, 25 187
- Tuberculous cavities E R LONG J-Lancet, 1935, 55 191
- Collapse therapy and pulmonary tuberculosis W. C MOORE J Indiana State M Ass, 1935, 28 171
- Recent trends in the indications for pneumothorax H I SRECTOR J-Lancet, 1935, 55 198
- Roentgenological examination of large pulmonary cavities and their treatment by pneumothorax PRUVOST, BRINCOURT, LIVIERATOS, and LEBLANC Arch méd-chir de l'appar respir, 1935, 10 9
- The treatment of giant cavities by pneumothorax PRUVOST, MEYER, and LIVIERATOS Presse méd. Par, 1935, 43 385 [132]
- Recent developments in artificial pneumothorax, its complications and complementary measures V D TAN Chinese M J, 1935, 49 293
- Considerations on pleural eosinophilia in artificial pneumothorax E VAUCHER, J KABKAER, and G ZENGUINOFF Arch méd-chir de l'appar respir, 1935, 10 25 [132]
- Combined artificial pneumothorax and phrenicectomy for the closure of diffusely adherent tuberculous cavities D W GILLICK J Oklahoma State M Ass, 1935, 28 117
- Interposition of the colon following induced phrenic paralysis P SLAVIN Am J Roentgenol, 1935, 33 481
- The value of phrenic exeresis in the treatment of pulmonary tuberculosis P V BENJAMIN Indian M Gaz, 1935, 70 207
- The technique of phrenicectomy with exposure of the accessory phrenic and subclavian nerves H GRUCHAUD and M THALHEIMER J de chir, 1935, 45 513 [132]
- Intrapleural pneumolysis by the closed method R C MATSON J-Lancet, 1935, 55 196
- Plombage with a wax gelatin mixture P. G SCHMIDT Beitr z Klin d Tuberk 1934, 85 611
- Thoracoplasty LER S PETERS J-Lancet, 1935, 55 197
- Spinal anesthesia in thoracoplastic operations for pulmonary tuberculosis H F NEWTON J Thoracic Surg, 1935, 4 414
- The treatment of acute gangrenous suppurative diseases of the lungs V T BRAITZEV Vestnik Khir, 1934, 36 99
- Pulmonary abscess C CASE Policlin, Rome, 1935, 42 sez prat 492
- Bronchography and bronchiectasis I S SCHAPIRO and L JACHES New York State J M, 1935, 35 441
- The roentgenological picture of bronchiectasis A VALLEBONA Radiol med, 1935, 22 329 [133]
- The surgical treatment of bronchiectasis A G BRUCE Brit M J, 1935, 1 350
- Lobectomy for bronchiectasis in children J. V BOHRER. J Thoracic Surg, 1935, 4 352 [133]
- Pulmonectomy for unilateral bronchiectasis C A JOLL Proc Roy Soc Med, Lond, 1935, 28 756
- Congenital cyst of the lung J L DUBROW Radiology, 1935, 24 480 [133]
- Congenital lung cysts in infants and children S G SCHENCK and J L STEIN Radiology, 1935, 24 420
- The anatomicoroentgenological characteristics of congenital cystic lung NICOTRA Radiol med, 1935, 22 238 [133]
- Symptoms of hydatid cyst of the lung. M S ASTROV. Vestnik Khir, 1934, 36 39
- Hydatid cysts of the lung; diagnosis and treatment DELAYE Rev de chir, 1935, 54 147
- Malignant tumors of the lung V LAMBEA Med Ibera, 1935, 19 405
- The diagnosis of primary carcinoma of the lung C H HEACOCK and J C KING Radiology, 1935, 24 452
- Primary carcinoma of the bronchus, massive involvement of the heart and pericardium N. M. MATHESON Brit J Radiol, 1935, 8 248
- Primary carcinoma of the lung with neoplastic thrombosis of the superior vena cava A FABRIS Policlin, Rome, 1935, 42 sez prat 607
- Primary stenosing cancer of the main bronchus L. A CHIODIN Rev méd d Rosano, 1935, 25 9
- A case of hematogenous pulmonary metastatic carcinomatosis LIZAGUIRRE Arch de med. cirug y especial, 1935, 16 153
- A consideration of the dangers of lobectomy E ARCHIBALD J Thoracic Surg, 1935, 4 335. [134]
- The treatment of empyema R H LOTT J Iowa State M Soc, 1935, 25 190
- The treatment of acute empyema in children H KOSTER, J ROSENBLUM, L P KASMAN, and H LERNER J Am. M Ass, 1935, 104 1484
- New methods for the closed treatment of purulent empyema A KOÓS Orvostudósok, 1934, 24 18
- Empyema necessitatis cured by aspiration E H W DEANE Lancet, 1935, 228 987
- Observations on the treatment of empyema, with special reference to drainage and expansion of the lung O H WANGENSTEEN J Thoracic Surg, 1935, 4 399 [135]
- The treatment of tuberculous pleural effusions and empyemas R R TRAIL Brit M J, 1935, 1 870
- Streptococcic empyema treated with semi-weekly irrigations L N TODD and J L TRACY, JR J Med Ass Georgia, 1935, 24 126

Heart and Pericardium

- Foreign body in the heart G L FAIR New York State J M, 1935, 35 453
- Injuries of the heart and the large vessels by blunt trauma W HALLERMANN Deutsche Ztschr f gerichtl Med, 1935, 24 176
- The late results of cardiac suture twenty-five years after operation E R HESSE Vestnik Khir, 1934, 35 197.
- Problems of adhesive pericarditis M SCHUR Ergebn. d inn Med u Kinderh, 1934, 47 548 [135]
- The diagnosis and the clinical and surgical treatment of hydatid cysts of the pericardium A A OPOKIN and K T KOLJU Vestnik Khir, 1934, 36 31

Esophagus and Mediastinum

The localization of bones in the esophagus by roentgenoscopy. P. I. VINCOW and H. M. WYER. *Minnesota Med* 1935 18 240

A case of primary lymphogranulomatosis of the esophagus. J. CHODURA and J. DANAI. *Path* 1935 12 305

The artificial fixation of the anterior mediastinum and mediastinography. J. PRINZ SCHWEN. *med Wochenschr* 1935 1 30

A rare mediastinal abscess. C. FANTANA. *Folia Clin Reme* 1935 42 364 part 818

A roentgen consideration of mediastinal tumors. W. A. LAYNE and L. K. WICKER. *Radiology* 1935 24 465

Fistuloma of the mediastinum with rupture into a bronchus. J. HIRSH. *Cas lek česk* 1935 p 14

Miscellaneous

Anatomy of the diaphragm. I. I. TULIATSKY. *J Thoracic Surg* 1935 4 419

Rupture of the diaphragm following slight trauma. R. R. TATTERSALL and E. B. HARVEY. *Brit M J* 1935 1 80

Apuronic diaphragmatic hernia: its occurrence and reparation. J. DAVIS. *Cas lek česk* 1934 p 1104

Congenital diaphragmatic hernia in the newborn. A. L. DOWD. *Zentralbl f Chir* 1935 p 46

Notes on three cases of congenital diaphragmatic hernia. H. C. JEWANBY. *Proc Roy Soc Med Lond* 1935 28 651

Traumatic diaphragmatic hernia following war injuries. P. J. TROTTER and W. C. LUTHER. *New England J Med* 1935 212 107

Two cases of diaphragmatic hernia. M. M. CRUICKSHANK. *J Clin Path* 1935 42 221

Traumatic diaphragmatic hernia associated with intracranial hemorrhage in the esophagus: report of cases. J. I. VINCOW and H. J. MORSE. *Arch Ch Surg* 1935 21 437

Diaphragmatic hernia on the right side operated upon by the thoraco-abdominal route. A. VANDER LIND. *et mem Soc nat de chir* 1935 61 214

Status hernialis. J. RICH. *Chir* 1935 1934 24 135

Acute primary diaphragmatitis (Hofmann's syndrome). M. JOHANNES. *Am J M Sc* 1935 140 454

Experimental traumatic diaphragmatitis. J. D. BISCARD. *J Thoracic Surg* 1935 4 435

Extrapulmonary tumors of the left lung. C. B. LINDEN. *Pathology* 1935 24 467

Malignant tumors of the thorax in upper abdominal. D. A. KATH. *Kentucky M J* 1935 33 112

The prevention of post-operative wound complications following the Jacobson operation. A. SATTLER. *Intz z Klin d Tuberk* 1934 85 601

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

The innervation of muscles of the abdominal wall with reference to surgical incisions. C. S. WHITE. *South M J* 1935 28 349

Blunt injuries of the abdominal wall and the abdominal cavity. A. BORCHARD. *Monatsschr f Unfallheilk* 1934 41 393

The pre-formed hernial apertures. O. KISS. *Orvosegyes* 1934 24 127

Hernia through the epiploic foramen. K. B. SMALL. *W. J. Indiana State M Ass* 1935 28 183

Abdominal hernias from the point of view of trauma. M. I. FENAI. *Chirug y Cirujani* 1934 p 26

A case of inguinal hernia. A. BILLET. *Bull et mem Soc nat de chir* 1935 61 141

A contribution to the study of two rare varieties of hernia: para-inguinal and peringuinal hernia. M. J. SALT. *Lyon chir* 1935 32 120

The technique of the hernial injection treatment. S. W. FOWLER. *Med Rec New York* 1935 122 14

A new operative method for small umbilical hernias. SCHMITZ. *Arch f Klin Chir* 1934 181 44

Heterotopic bone formation associated with adenocarcinoma in an abdominal wall. A. CLARK. *Brit J Surg* 1935 22 849

Peritonitis. C. C. HISS. *New York State J M* 1935 33 410

Chronic encapsulating peritonitis. S. HIND. *Norfolk J Surg* 1934 120 215

The treatment of postoperative peritoneal adhesions by the intradural injection of a desinfectant. J. M. SOLDEVILLA. *Clin y Lab* 1935 20 225

Foramina in the great omentum. I. SANTAVILLA. *Bol Soc de chirug de Rosario* 1934 1 412

Torsion of the great omentum. F. S. LUNA. *Arch ital di chir* 1935 39 348

Torsion of the greater omentum of the lesser omentum. H. M. SERRIN. *Ann Surg* 1935 101 557

Acute mesenteric lymphadenitis. E. P. COLLINS. *West J Surg Obstet Gynec* 1935 41 191

Mesenteric cyst enucleation recovery. J. C. STONE and J. HERRING. *Bull et mem Soc nat de chir* 1935 61 355

Caastro-Intestinal Tract

The report of a clinical study of pneumatous cystoides involving the gastro-intestinal tract and an example of cystitis emphysematosa. S. HOFFMANN. *Zentralbl f Chir* 1935 p 130

Endoscopic examination. K. HERRING. *Cas lek česk* 1934 1 1207

Acute perforations of the gastroduodenal area with special reference to those of traumatic origin. J. MORROW. *Minnesota Med* 1935 18 124

The importance of roentgen examination in cases of suspected gastroduodenal perforation. J. MURPHY. *Can J Med* 1935 22 93

Splenectomy and larynx ablation of the partially thoracic stomach. H. B. TAYLOR. *Proc Roy Soc Med Lond* 1935 28 441

The treatment of ulcer at stomach by high gastric resection. J. J. J. J. J. *Bull et mem Soc de chirug de Paris* 1935 22 111

Congenital hypertrophy of the pylorus in the adult. A. ZENO. *Am J Surg* 1935 101 557

Acute dilatation of the stomach and duodenum. A. PARKANAGA. *Cirug y Cirujani* 1934 p 271

Congenital hypertrophic pyloric stenosis. J. S. ALLEN. *Kentucky M J* 1935 33 110

Cystitis a phenomenon of pyloric obstruction and its relation to duodenal ulcer. W. WALTERS and G. T. CURRIE. *Minnesota Med* 1935 18 206

- The hormonal production of ulcer. III Acute erosive acetylcholine gastritis and its pathogenesis H HANKE Ztschr. f. exper. Med., 1934, 95 77
- Diaphragmatic gastric hernia with callous ulcer, operative reduction. DEW STETTIN. Ann. Surg., 1935, 101: 1113
- Peptic ulcer in childhood Gastro-enterostomy on a seven-year-old boy C C NESSELRODE and D N MEDLARS West J. Surg., Obst. & Gynec., 1935, 43: 208
- Perforated ulcer J DEAN Wisconsin M J., 1935, 34 251
- Acute perforation of gastric ulcer followed by rupture of the abdominal wound and complete cure, report of a case H CANTOR. Virginia M. Month., 1935, 62: 37
- Newer methods of treating peptic ulcer, constipation, and indigestion G CRILE New York State J. M., 1935, 35 422
- The histidine monohydrochloride therapy of gastroduodenal ulcer I F VOLINI and R F McLAUGHLIN Med Rec., New York, 1935, 141 364
- Peptic ulcer treated by venoclysis, report of cases G A HENDON Kentucky M J., 1935, 33 176
- The surgical treatment of gastric and duodenal ulcer H MATTI Schweiz. med. Wchnschr., 1934, 2. 1145
- Complex gastrectomy for gastroduodenal ulcer J CHARRIER Bull. et mêm. Soc. nat. de chir., 1935, 61 424
- One hundred and eight gastrectomies for ulcer J DUVAL Presse méd., Par., 1935, 43 191
- Postoperative complications in cases of perforated gastric and duodenal ulcer B G HERZBERG and K V ZAKHAROVA Vestnik Khir., 1934, 36 111.
- Gastric tumors and peptic ulcer F JAEGER Zentralbl. f. Chir., 1934, p. 2831
- Myoma of the stomach and bowel E C VAN RIJSEL Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1934, 43 535
- Severe anemia due to benign tumor of the stomach BRODIN, MADIER, and TILDESCO Bull. et mêm. Soc. méd. d. hop. de Par., 1935, 51. 504
- The differentiation of benign and malignant gastric ulcers The unreliability of diagnostic criteria A B RIVLEPS and T J. DRY. Arch. Surg., 1935, 30 702 [137]
- Early cancerous changes in peptic ulcer A L BLOOMFIELD J. Am. M. Ass., 1935, 104 1197 [137]
- The roentgen diagnosis of small carcinomas of the stomach L G RIGLER Wisconsin M. J., 1935, 34 236
- Cancer of the stomach and intestines J S HORSLEY South M. & S., 1935, 97 181
- Carcinoma of the stomach in a girl twenty-one years of age W J MacLARNAN Radiology, 1935, 24 494
- Resection of the stomach for carcinoma, important technical considerations L. HOLMAN California & West Med., 1935, 42 152
- Total gastrectomy for carcinoma ventriculi C A JOLL Proc. Roy. Soc. Med., Lond., 1935, 28 757.
- Three cases of primary sarcoma of the stomach F GUCCIONI Policlin., Rome, 1935, 42 sez. med. 168
- Lymphosarcoma of the stomach T E JONES and M G CARMODY Ann. Surg., 1935, 101 1136
- Emergency surgery of the abdomen and roentgen diagnosis. I. Intest. Zentralbl. f. Chir., 1935, p. 97.
- The technique of gastroduodenal resection M DONATI Bull. et mêm. Soc. d. chirurgiens de Par., 1935, 27 67.
- Excision and resection of the stomach T. CALZOLARI Clin. chir., 1935, 11 115
- Complex gastrectomies J OKRZYCZAK Bull. et mêm. Soc. nat. de chir., 1935, 61 351
- Gastrectomy and partial colectomy in one stage for neoplasia of the stomach adherent to the transverse colon, recovery without complications J DUVAL Bull. et mêm. Soc. nat. de chir., 1935, 61 310
- Regional anesthesia in gastric surgery. J. DUCUNG Rev. de chir., 1935, 54: 106
- Roentgenological determination of normal and abnormal results following operation on the stomach and duodenum. B. R. KIRKLIN. Am. J. Roentgenol., 1935, 33: 468
- The prevention of hemorrhage following operations on the stomach L. KOCH Zentralbl. f. Chir., 1935, p. 312.
- Atoril-resistant lipase in the serum following gastric resection G JORNS Klin. Wchnschr., 1934, 2. 1054
- Obstruction W. BRAUN Zentralbl. f. Chir., 1935, p. 95
- Roentgenography of the abdomen without an opaque medium in acute obstruction M BÉCHET, J. FORNIER, and J. DELBREIL Bull. et mêm. Soc. nat. de chir., 1935, 61: 456
- Roentgenography of the abdomen without an opaque medium in acute obstruction. P. MOUTONGUET Bull. et mêm. Soc. nat. de chir., 1935, 61. 461.
- Pre-operative roentgenological examination in acute and subacute intestinal obstruction A. GOSSET. Bull. et mêm. Soc. nat. de chir., 1935, 61. 322
- Intestinal obstruction from a rare cause in an infant. A. PERROT and L. DANOY Ann. d'anat. path., 1935, 12: 157.
- Intestinal occlusion caused by ascariades N. N. BOLJARSKY Vestnik Khir., 1934, 36. 46.
- Blood changes in high obstruction of the bowel O HÖGEG-GULDBERG Ugesk. f. Læger, 1934, p. 1300
- Deficient fixation with probable volvulus of the mid-gut loop in an infant P L HIRSLEY Med. J. Australia, 1935, 1 463
- Diffuse general polyposis of the bowel MANDILLON and GEORGET Rev. de chir., 1935, 54 238
- Massive intestinal hemorrhage complicating an enterocystoma; secondary malignant enterocystoma E MELCHIOR Deutsche Ztschr. f. Chir., 1934, 243 749
- Volvulus of the small bowel, importance of roentgenography in obstruction PANIS Bull. et mêm. Soc. nat. de chir., 1935, 61 394
- Diverticula of the duodenum P MACGUIRE. Internat. J. Med. & Surg., 1935, 48. 153
- Adenoma of the duodenum. B. R. SWORN and J. MENNON Brit. J. Surg., 1935, 22 657 [138]
- Primary sarcoma of the duodenum; report of a case. D. PREL, J. M. FOSTER, JR., and W. DENNIS Arch. Surg., 1935, 30 675
- Reactions of the contents of the jejunum and the experimental production of peptic ulcer. P. P. T. WU. Arch. Surg., 1935, 30 557
- Primary jejunal ulcer B C SMITH Ann. Surg., 1935, 101 1110
- Jejunal ulcer following gastro-enterostomy for duodenal ulcer B C SMITH Ann. Surg., 1935, 101 1111
- Jejunal ulcer following gastric resection F W BANCROFT Ann. Surg., 1935, 101 1125
- Meckel's diverticulum C E. FARR and M. PENKE Ann. Surg., 1935, 101 1026
- Meckel's diverticulum attached to the root of the mesentery. P C POTTLE Ann. Surg., 1935, 101 1125
- Roentgenographic study of the mucosa of the large bowel D BRAVISTANT and C MOISSE Presse méd. Par., 1935, 43 302
- The diagnosis of diverticulitis and diverticulosis of the colon, with special reference to the roentgen study of these conditions C P RUTLEDGE South M. J., 1935, 28 303
- Chronic ulcerative colitis L A RIELI South M. J., 1935, 28 370
- Carcinomas of the large bowel I The colon II The rectum T S RAFFORD Ann. Surg., 1935, 101 863 1042 [139]
- Pathological factors in the curability of carcinoma of the colon L M LARSON Minnesota Med., 1935, 28 212.

Ileos groidostomy by the button sound method a method of securing permanent union without anastomosis in surgery of the colon J DELACROIX Bull et mém Soc nat de chir 1935 61 372

Inguinal hernia and the appendix C HAZ Cirug y cirujanos 1935 p 1

False appendicitis J S JULI Rev méd de Barcelone 1935 12 173

Observations on the differential diagnosis of appendicitis F STRASSER Festschr Ver Aerzte Steiermark 1935 p 108

Appendicitis W D HARRIS Am J Surg 1935 28 140

Appendicitis in children A SIMPSON SMITH Transactions 1935 534 538

Acute appendicitis in children The challenge of its continuing high mortality H W HILSON JR New England J Med 1935 212 60

Two cases of appendicitis one on the eighth day with a large indurated mass, administration of the Vincent anti colon bacillus serum, operation easily performed on the thirteenth and twentieth days respectively J BARBER Bull et mém Soc d chirurgiens de Lar 1935 27 127

Appendicitis and deep ureteral stone W FORSMAN Chirurg 1934 6 807

Fibropurulent peritonitis following acute appendicitis I C POTTER Ann Surg 1935 101 1123

Operation for acute appendicitis S R FELDMAN Vestnik Khir 1934 36 74

A review of statistics on appendicitis for two decades E SEIFERT Deutsche Ztschr f Chir 1934 244 176 [140]

Extraperitoneal appendiceal abscess J I MACEDO Cirug y cirujanos 1934 p 317

Gigantic tumor of the transverse colon operation recovery GRESSON Bull et mém Soc d chirurgiens de Lar 1935 27 114

Cancer of the transverse colon in a seven year old boy D B LEIFERER and J K W WOOD J Am M Ass 1935 104 1227

Acute diverticulitis of the sigmoid R F WEBER Am J Surg 1935 29 142

Ulceration and volvulus of the sigmoid perforation gauze infiltration of the mesentery pyrocamperitoneum resection recovery A MATONICA Bull et mém Soc d chirurgiens de Lar 1935 2 101

Cysto copy in sigmoid cancer J MCKE Bull et mém Soc d chirurgiens de Lar 1935 27 40

The surgical treatment of rectal prolapse A A SALVIN Ann Surg 1935 101 163 [140]

The treatment of benign rectal diseases H STEINER Wien klin Wchnschr 1934 2 1537

Carcinoma of the rectum J A BARCEA and E T LLOYD J Am M Ass 1935 104 1201

Surgical diathermy of carcinoma of the rectum A A STRAUSS J F STRAUSS R A CRAWFORD and H A STRAUSS J Am M Ass 1935 104 1450

Carcinoma of the rectum A J CHILDS P HILKOWITZ and A W FREDMAN Colorado Med 1935 32 301

The non-surgical method of treating hemorrhoids A M PHILLIPS J Med Ass Georgia 1935 24 120

Observations on fistula in ano in relation to the perianal intramuscular glands with reports on three cases S R C GORDON WATSON and H DODD Brit J Surg 1935 22 701 [145]

The treatment of anal fistula followed by partial suture CABANÉ Bull et mém Soc nat de chir 1935 61 363

The treatment of anal and rectal fistula with partial debridement of the rectal mucosa T T D'AVELLA Vestnik Khir 1934 35 76

Liver Gall Bladder Pancreas and Spleen

The protein synthesis functions of the liver A MILELLA Polichin Rome 1935 42 sez med 220

The bilirubin-capacity test as a test of liver function A BROECKNER MORTENSEN Acta med Scand 1935 83 1 [141]

Hepatic function in relation to operation and anesthesia in surgical affections in general and diseases and drainage of the biliary tract S TENER Arch ital di chir 1935 39 211

Clinical studies on the secretion of bile 300 cases studied by duodenal intubage F CHABROL and M CARON Presse méd Lar 1935 43 425

Studies of the secretion of bile in cases of drainage of the bile passages J ZILLOTT Arch ital di chir 1935 39 301 [142]

Histological changes in the thymus of dogs following external derivation of the bile J LA GUARDIA Clin chir 1935 12 165

A bronchobiliary fistula R W FRENCH Arch Surg 1935 30 635

The bleeding tendency in jaundice A C IVY P F SHAPIRO and I WEINER Surg Gynec & Obst 1935 60 81

A fatal case of leptocoral jaundice of obscure origin G W WATSON J W McLEOD and M J STEWART Brit M J 1935 2 119

The effect of vosterol in jaundice R W McNEALEY I F SHAPIRO and P MELLICK Surg Gynec & Obst 1935 60 75

The position of the liver following right sided phrenic excision J SMITH Rozhl Chir a Cynack Chir 1934 13 128

Chronic hepatitis and subacute hepatitis in infants with particular reference to the infective type I LATERNI Polichin Rome 1935 42 sez med 245

Omentopexy in the treatment of cirrhosis of the liver J F CHABROL Am J Surg 1935 28 135

The cause of death due to liver autolysis F C MASON and C A NAL Surg Gynec & Obst 1935 60 760

The clinical aspects of subphrenic abscess I VON SZACSKY Beitr f klin Chir 1934 170 598

Abscess of the liver G SHERRILL Internat J Med & Surg 1935 4 9

Chinococcus cysts of the liver apart from those of the biliary passages B LA GUARDIA Polichin Rome 1935 42 sez chir 148

Primary carcinoma of the liver in a child of fourteen months PECLARD Rev méd de la Suisse Rom 1935 p 245

Primary carcinoma of the liver of unusually massive proportions C F C COLE S O ROBERTS A C NORWICH and C W HOLMSTEAD Canadian M Ass J 1935 32 420

The mechanism of rapid cholestygraphy study with hypertonic chloride solutions F SACCA Polichin Rome 1935 42 sez chir 171

Experimental studies in the physiopathology of the gall bladder L VAN DER LEST Presse méd Lar 1935 43 524

The function of the gall bladder in non calculous disease J JOLYA (VON) Beitr 1934 p 1109

Toxic cholecystitis A FASSINGER and M ALBAUX FERNET Presse méd Lar 1935 43 521

The energy background of the genesis of gall stones and of the prevention of immediate postoperative shock and of later digestive disturbances G GRILL Surg Gynec & Obst 1935 60 918

Calculation of the gall bladder B C KESLER and F C HILL Am J Surg 1935 29 129

- A contribution on the technique of cholecystostomy. A DESJARDINS Bull et mêm Soc d chirurgiens de Par, 1935, 27 100
- The advantages of electrosurgical obliteration of the gall bladder over classical cholecystectomy M THOREK. Internat. J Med & Surg, 1935, 48 106
- Two late sequelæ of cholecystectomy (1) calculous cholecystitis, (2) biliary peritonitis BARTHELEMY Bull. et mêm Soc nat de chir, 1935, 61 355
- The relation of cystic duct obstruction to deposition of calcium in the gall bladder E C. CUTLER and R BOGGS J Am M Ass, 1935, 104 1226
- The histology of the biliary ducts and its correlation with the symptomatology of common duct stone I G. MACDONALD Surg, Gynec & Obst, 1935, 60 775
- Calculus in the ductus choledochus, icterus from retention, perforating ulcer of the duodenum P CARNOT and L CAROLI Bull et mêm Soc méd d hop de Par, 1935, 51 415
- X-ray appearances produced by congenital cystic dilatation of the common bile duct. A D WRIGHT Brit J Radiol, 1935, 8 227
- Reconstructive surgery of the common bile duct G COORS South. M J, 1935, 28 351
- Cholangiography during operation. P L MIRIZZI Bull et mêm Soc nat de chir, 1935, 61 349
- The diagnosis of postoperative complications on the part of the pancreas J KIRALI. Orvosi hetil, 1934, p 1081
- Hyperinsulinism, hypoglycemia, subtotal pancreatectomy G THOMASON West J Surg, Obst & Gynec, 1935, 43 185
- Acute pancreatitis M EINHORN Med Rec., New York, 1935, 141 362
- Acute pancreatic edema G G. VIANNA Rev brasil de cirurg, 1935, 4 60
- Tumor of the head of the pancreas without icterus G SICURA Semana méd, 1935, 42 740
- Cystic epithelioma of the pancreas J PATFL and J NAVILIAU Ann d'anat path, 1935, 12 175
- Latent adenocarcinoma of the body of the pancreas A GASTRINI Policlin, Rome, 1935, 42 sez prat 477
- Carcinoma of the body and tail of the pancreas H K RANSOM Arch Surg, 1935, 30 584
- Nineteen cases of mechanical injuries to the spleen I ROSENAK. Orvosképzés, 1934, 24 317
- A case of traumatic rupture of the spleen J P BONFIELD. Canadian M Ass J, 1935, 32 422
- Spontaneous rupture of the spleen. G LUNDELL Acta chir, scand, 1934, 75 547
- Wandering spleen with torsion of its pedicle; report of a case J C MOTLEY. Virginia M Month, 1935, 62 14
- Ligation of the splenic artery for advanced splenic anemia R B. WATSON Brit M J, 1935, 1 821
- Gaucher's disease in an infant; splenectomy. M. ACUSA and F DE FILIPPI. Semana méd, 1935, 42 735
- Hemolytic icterus with infantilism W. LANGSTON. South M. J, 1935, 28 316
- Splenomegaly associated with syphilis, with recovery following splenectomy R H LIVING and A W LOY. U S Nav M Bull, 1935, 33 261
- Hydatid cyst of the spleen L SABADINI. J. de chir, 1935, 45 534
- The treatment of large hydatid cysts of the spleen. R. M GUREVITCH Vestnik Khir, 1934, 36 42
- Cutaneous rupture of hydatid cyst of the spleen, intraperitoneal delivery of an intact hydatid cyst weighing 4,800 gm; double hydatid cyst of the spleen L SABADINI. Bull et mêm Soc nat de chir, 1935, 61 439
- Reticulosarcoma of the spleen H STEVENSON, A BERGERET, G ALBOT, and J LELOURDY. Presse méd., Par., 1935, 43 382
- Splenectomy for vital indications in a case of hepatosplenic disease A ZELL Zentralbl. f Chir, 1935, p 90

Miscellaneous

- The auscultation of the abdominal cavity in the diagnosis of acute diseases of its organs A T LIDSKY Vestnik Khir, 1934, 36 56
- The value of the X-ray in the diagnosis of acute abdominal conditions I W PONOMON Am J Surg, 1935, 28 122
- Surgical study of acute abdominal conditions U VALDES Cirug y cirujanos, 1934, p 261
- How should the internist and surgeon reduce the mortality of acute abdominal conditions? BARÓN Arch de med cirug y especial, 1935, 16 77

GYNECOLOGY

Uterus

- Harmful effects of certain chemical substances on the uterus of the rat F L D'AMOUR and N KIVEN Am J Obst & Gynec, 1935, 29 503
- The technique of stereohysteroscopy S CLASON Acta obst et gynec Scand, 1935, 15 87
- The safety of modern methods Brouha and hysteroscopy in the diagnosis of intra-uterine diseases N C LAMARCA and H LEROR Bull Soc d'obst et de gynec de Par, 1935, 24 85
- The procedure in cases of congenital deformities of the uterus H WOJCIK Ginek polska, 1934, 13 645
- The management of prolapse of the uterus C A GORDON Am J Obst & Gynec, 1935, 20 347
- Kaluzhkin's operation for retroflexion of the uterus K BOCHINSKI Ginek polska, 1934, 13 511
- Death following coagulation of the cervix R I HILLER J Am M Ass, 1935, 104 1323
- Operative treatment of uterine hemorrhage A SCHRATZ Zentralbl. f Gynec, 1934, p 2058
- The therapeutic indications and technique in chronic cervicitis R LABRY and J VILLAR Gynec et obst, 1935, 51 291
- A case of metritis of the cervix treated by diathermy coagulation J CHOSSON and A ARTAUD Bull Soc d'obst et de gynec de Par, 1935, 24 154
- Endometritis L HOEVELMAN Med Welt, 1934, pp 1541, 1581
- Acute miliary tuberculosis following curettage for tuberculous endometritis W BUENGLER Frankfurt Ztschr f Path, 1934, 47 313
- Infarction and gangrene of the uterus MONDOP, LAMY, and LEROY Presse méd, Par, 1935, 43 377
- Fibroma of the uterus F PARR J de méd de Bordeaux, 1935, 112 167
- Rupture of the pedicle of a uterine fibroma in the postpartum period, removal, cure R PALLIER and L GEPYER Bull Soc d'obst et de gynec de Par, 1935, 24 142
- Voluminous fibroma removed by myomectomy in the fourth month of pregnancy VLEMLIN and GUILLEMIN Bull Soc d'obst et de gynec de Par 1935, 24 179

- Fibromyoma of the round ligament of the uterus N STROSECKI *Gynecol* 1934 10 9
- Myoma of the uterus before the twentieth year of age S CLASOV *Acta obst et gynec Scand* 1935 15 59 [145]
- Blood vessels of uterine tumors III Distribution of blood vessels in uterine sarcoma IV Distribution of blood vessels in uterine myoma G KAWAKATSU *Jap J Obst & Gynec* 1935 18 147
- Phases in the prevention and etiology of uterine carcinoma J HOFBAUER *J Med Clin* 1935 16 63
- The asymptomatic period in the development of carcinoma of the uterus and its importance in the combat of cancer H GOFCKY *Monatsschr f Krebshepfig* 1934 1 191
- The prevention of cancer of the cervix H HENSEL *Monatsschr f Krebshepfig* 1934 2 354
- Cancer of the cervix uteri STOUT *New Zealand M J* 1935 34 97
- Cancer in the remaining cervix J ARNOULD *Bull Soc d'obst et de gynec de Par* 1935 24 144
- A case of cancer of the uterus showing extensive glandular involvement C M WILLIAMS and N M MATHESON *J Obst & Gynec Brit Emp* 1935 42 318
- A further report on 173 cases of cancer of the cervix in the years 1912 to 1934 A MAGLIER *J Obst & Gynec Brit Emp* 1935 42 283
- Investigation of the ferments in uterine cancer VI Creptase in uterine cancer K NAKAHARA *Jap J Obst & Gynec* 1935 18 120
- The prognosis and treatment of adenocarcinoma of the cervix G MADRIZZA *Zentralbl f Gynaek* 1933, p 19
- The prognosis and treatment of adenocarcinoma of the cervix F NILES *Acta radiol* 1935 16 217 [145]
- The treatment of carcinoma of the uterus complicated by other organic diseases F GAL MACY Roentgen Kozel 1934 8 137
- Intravaginal irradiation of cervical carcinoma II MARTINS *Strahlentherapie* 1934 51 477
- Radium and cancer of the cervix MACKEAZIE *New Zealand M J* 1935 34 100
- The supplementary radium dosage in the roentgen treatment of carcinoma of the uterus H WINTZ *Strahlentherapie* 1934 51 447
- Late complications in irradiation treatment of cancer of the cervix Q U NEWELL and H S CROSSEY *Surg Gynec & Obst* 1935 60 63
- The so called Stockholm method and the results of treatment of uterine cancer at Radiumhemmet J HJYMAN *Acta radiol* 1935 16 229
- Hysterectomy for carcinoma of the corpus uteri F H RICHARDSON *Am J Surg* 1935 21 405 [145]
- Metastatic carcinoma of the acromion secondary to carcinoma of the body of the uterus operated upon six years previously and without local recurrence H LORE *Presse med* Par 1935 43 56
- Sarcoma of the uterus R H HOPE *Virginia M Month* 1935 62 40
- A new electrode for coagulation of the cervix R J CARLSON *J Missouri State M Ass* 1935 31 125
- Total abdominal hysterectomy anatomy and technique L K P FARRAR *Surg Gynec & Obst* 1935 60 816
- Actinomycosis of the fallopian tubes with the report of a case S S GARDNER *Australian & New Zealand J Surg* 1935 4 279 [145]
- A case of tuberculosis and cancer of the fallopian tube D DILMUTH *Gynec u obst* 1934 10 58
- Primary benign tumors of the fallopian tube lipoma M BOERERT *Gynecologia* 1935 1 211
- Primary carcinoma of the fallopian tubes W WILSON *Monatsschr f Geburt u Gynaek* 1934 63 217
- Dangers and diagnostic errors in tubal insufflation J NOVAK *Zentralbl f Gynaek* 1935 p 109
- Studies on the corpus luteum hormones L BROUHA and L DESMET *Bruxelles med* 1935 15 586
- The action of extracts of the corpus luteum A CRUICKSHANK and H KERN *Gynecol* 1934 10 9
- The effect of the internal secretion of the ovaries on blood coagulation B JALOWY *Acta Biol exper* 1934 8 45
- Conadotropic stimulation treatment L Z DEK *Acta obst et gynec Scand* 1935 15 1 [146]
- The fate of the isophenolized ovary Anatomical studies and functional tests at various intervals after isophenolization F MATTEACE *Riv ital dig ec* 1935 12 577 [146]
- Unilateral absence of the ovary N C LOCUS *Zentralbl f Gynaek* 1934 p 243
- Indirect migration of the ovum MASCARETTI *Arch di ostet e gynec* 1935 41 145
- Intra abdominal hemorrhages from the ovary A C KATZ *Veitshkr* 1934 16 63
- The etiology, diagnosis and treatment of sclerocystic ovaritis MARZANILLA *Cirug y ginecos* 1934 p 399
- Sclerocystic ovaritis treated by partial ovarian resection recovery from menstrual troubles and cessation of sterility of eight years duration J SCENIA *Bull Soc d'obst et de gynec de Par* 1935 24 121
- The co existence of bilateral ovarian cysts of the same histological type in mother and daughter J CRIVELLO *J Péri et A CHABERT* *Bull Soc d'obst et de gynec de Par* 1935 24 153
- Ovarian gas cyst case report S BROWN *J Med Cincinnati* 1935 16 85
- Ovarian cyst with twisted pedicle in a girl nine years of age C J KICKHAM *New England J Med* 1935 212 665
- Severe renal calculus due to chronic torsion of a cystic ovary O AMOYO *Arch ital di urol* 1935 12 243
- The histology of the ovaries in cases of fibroma F STROECKI *Cinek polska* 1934 13 573
- Cervical epithelium of a senile ovary included in a vaginal scar eleven years after hysterectomy F D ERCHIA *Gynec et obst* 1935 31 97
- The prognosis of malignant tumors of the ovary W MARTIN *1934 Leipzig Dissertation*

External Genitalia

- The treatment of pruritus vulvae with subcutaneous alcohol injections A JACOB *Am J Obst & Gynec* 1935 20 604
- Tuberculous inflammation of Bartholin's gland with demarculation of base J DEUTSCH *Wien med Wchnschr* 1934 120
- The development of the human vagina E VILAS *Anat Anz* 1934 79 150
- A case of aplasia of the vagina and cervix and a modified Kirschner Wagner operation A WESTERLY *Zentralbl f Gynaek* 1934 p 343
- Spontaneous rupture of the vagina with hemostocolpos due to congenital impermeability A CARRARO *Clin ostet* 1935 37 153

Adrenal and Perilutrine Conditions

- Acute torsion of the fallopian tube D F LIMA and R F CARLINO *Semana med* 1935 4 68
- Intraperitoneal hemorrhage from the fallopian tube with out ectopic pregnancy in the presence of intra uterine pregnancy A DUKAKI *Gynecol* 1934 10 14

- The etiology and treatment of vaginismus. T FERRARI. *Ginecologia*, 1935, 1: 207
- Trichomonas vaginalis vaginitis L GOLDSTEIN *Med Rec*, New York, 1935, 147: 341
- Two years' experience with theelin treatment of gonorrheal vaginitis J R MILLER *Am J Obst & Gynec*, 1935, 29: 553
- Bilateral urterovaginal fistula. E VON GRAFF *Am J Obst & Gynec*, 1935, 20: 585
- Radical vaginal operation for vesicovaginal fistula following total hysterectomy by my personal technique P COSTESCU and I. DRAGOMIRESCU *Rev Chir*, 1934, 37: 431
- The formation of an artificial vagina by a modification of the skin-flap method F P MATWEJEW. *Zentralbl f Gynaek*, 1934, p 2727 *Rev franç de gynéc et d'obst*, 1935, 30: 57
- The treatment of gonorrhea of the cervix with flavadin W STEFFEN *Dermat Ztschr*, 1934, 70: 194

Miscellaneous

- An experiment on the artificial disturbance of the menstrual cycle by the administration of a preparation made from the hormone of the ovarian follicle "pelanin" S OKAMOTO, Y YAMAMOTO, H YAGI, and J KOSAKAE. *J Obst & Gynec*, 1935, 18: 105
- Newer ideas concerning ovulation and its correlation to the genital cycle P E BORRAS *Rev méd d Rosario*, 1935, 25: 1
- Hormonal disturbances in menstruation, with reference to the pancreas B LITGNER *Zentralbl f Gynaek*, 1934, p 2952
- Allergy and dysmenorrhea P. C DUTTA *J Obst. & Gynec Brit Emp*, 1935, 42: 309
- Essential dysmenorrhea W. M. BAILEY *Texas State J M*, 1935, 30: 755
- Membranous dysmenorrhea, a disease of internal secretion. A POHL *Arch f Gynaek*, 1934, 158: 326
- Resection of the presacral nerve and the inferior mesenteric ganglion for dysmenorrhea complicated by severe constipation (achalasia of the pelvic rectal sphincter) D J CANNON. *Irish J M Sc*, 1935, No 112, 168
- The therapeutic value of Antuitrin-S in menometrorrhagia S H GLIST and F SPIELMAN *Am J Obst & Gynec*, 1935, 29: 518 [147]
- The hormone of the anterior lobe of the hypophysis, prolactin, in the function of the genitalia, in pregnancy, and in the problem of tumors B ZONDEK. *Tung-Chi*, 1934, 10: 1
- Female sex hormones A J SCHAYO *Semana méd*, 1935, 42: 810
- The fate of the follicular hormones in the body B ZONDEK *Stand Arch Physiol*, 1934, 70: 133
- The rôle of hormones in the cause and treatment of functional uterine bleeding H F KANE *Virginia M Month*, 1935, 62: 19
- New orientation in the study of endocrine glands, sensibility and sensitization to ovarian hormones in women in active sexual life and in the menopause, clinical and experi-

mental studies R. LUSENA. *Policlin*, Rome, 1935, 42 sez prat 541

The influence of hormones on the function of the uterine musculature. L. KRAUL and S SIMON. *Wien klin Wchnschr*, 1934, 2: 1505 [147]

Investigations regarding the changes taking place in the mucosa of the uterus following overdosage with follicular hormone P N DAMM *Acta obst et gynec. Scand*, 1935, 15: 58 [148]

Results of the pre-operative administration of an extract of pregnancy urine, a study of the ovaries and of the endometrium following such administrations E C HAMBLIN *Endocrinology*, 1935, 19: 169 [148]

The effect of hormone injections on the development of ovarian grafts R PFOUST and R. MORICARD *Bull et mém Soc nat de chir*, 1935, 61: 343

Foreign bodies left in the abdomen C SALGADO *Rev. brasil de cirurg*, 1935, 4: 53

Genital prolapse J PATEL *Presse méd, Par*, 1935, 43: 415

New statistical study of the Le Fort operation, results in fourteen cases of complete genital prolapse in old women P BROCCQ and B DUPEUX *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 128

The treatment of uterine hemorrhage following persistence of the ovarian follicle A MANDELSTAM *Zentralbl f Gynaek*, 1935, p 34

Pelvic varicosities J F. WYNN. *J Indiana State M Ass*, 1935, 28: 184

The Elliott treatment of pelvic inflammatory disease R C DOAN and W M SIMPSON *Am J Surg*, 1935, 28: 78 [148]

New operative technique for the treatment of extensive cystocele M TEMESVARY *Magy Nőgyógy*, 1934, 3: 211

A large echinococcus cyst of the pouch of Douglas A VENTURA *Policlin*, Rome, 1935, 42 sez prat. 557

Endometriosis O E BLOCH *Internat J Med & Surg*, 1935, 48: 168

Changes occurring in the bones in cases of uterine and ovarian tumors H L KOTTMER. *Acta radiol*, 1935, 16: 275 [149]

On the therapeutic uses of sex-hormone preparations E MÖLLER-CHRISTENSEN *Acta obst et gynec Scand*, 1935, 15: 28 [149]

Short-wave therapy in gynecology K DALCHAU *Deutsche med Wchnschr*, 1934, 2: 1765

The value of presacral sympathectomy in gynecology P GRAFFAGNINO *South M. J*, 1935, 28: 353

The advantage of local anesthesia in gynecology and obstetrics G GELLHORN *J Missouri State M Ass*, 1935, 32: 143

The simplification of local anesthesia in gynecological laparotomies by the use of a short evipan anesthesia J FRIGYEST. *Zentralbl f Gynaek.*, 1934, p 2468

Female sterility due to polyserositis P TILLI *Chn ostet*, 1935, 37: 145

Preliminary report on sterilization of women by intra-uterine coagulation of the tubal orifices L A DEVILBISS *Am J Obst & Gynec*, 1935, 29: 563

OBSTETRICS

Pregnancy and Its Complications

- Pregnancy tests S ASCHMIDT *J Am M Ass*, 1935, 104: 1321
- Histidinuria in obstetrics and gynecology its use for the early diagnosis of pregnancy R BOLAFFI *Riv ital di ginec*, 1935, 17: 480 [150]

An investigation of the new biological test for hormones in pregnancy urine, preliminary report I S KLEINFELDER, A I WEISMAN, and H BAPOWERY *J Am M Ass*, 1935, 104: 1318

Experiences with the Aschheim-Zondek and Friedmann tests and their variations I ZELFSON *Ginek. polska*, 1934, 13: 603

- The development of pregnancy following cesarean section J RASAGO *Rev mexicana de cirug ginec y cáncer* 1935 3 149
- Short pregnancy L MOLINERGO *Ginecologia* 1935 115
- Twin pregnancy with one living full term child and one fetus papyraceous P K FIDUCIOS AM J Obst & Gynec. 1935 29 600
- Abruptio placenta complicating twin pregnancy J A BALASQUINE *Am J Obst & Gynec* 1935 29 608
- Cullen's sign in ruptured ectopic gestation I SMITH and F J WRIGHT *Lancet* 1935 228 930
- When to operate in ruptured ectopic gestation W C MEACHER *Am J Obst & Gynec* 1935 29 541 [151]
- Clinical and therapeutic contribution on infect of intra abdominal pregnancy carried to term M BORZDUSCHKI *Zentralbl f Gynaek* 1934 p 2965
- The differential diagnosis in the simultaneous occurrence of appendicitis and intra uterine or extra uterine pregnancy M S SZLETZKY *Vestnik khir* 1934 36 78
- A rare case of bilateral extra uterine pregnancy (tubal lithopedion in secondary abdominal pregnancy) P A VARCHAVSKY and E K ELENEVSKAYA *Gynec et obst* 1935 31 146
- The technique of operation for extra uterine pregnancy V SCHRAFFENBACH *Zentralbl f Gynaek* 1935 p 202
- Extra uterine pregnancy carried to term H DANFERS *Zentralbl f Gynaek* 1935 p 212
- The appearance of decidual reactions in the mucosa of the tube in a rare of intra uterine pregnancy A SJOVALL *Acta ob et gynec Scand* 1935 15 68
- A case of tubal pregnancy, some considerations on the value of the Brouha Friedmann test MOSINGER VERBERT and CASALTA *Bull Soc d'obst et de gynec de Par* 1935 24 156
- On the spontaneous healing of tubal pregnancy K TAKETOMI *Jap J Obst & Gynec* 1931 18 139
- A case of infundibular pregnancy I BERGER *Monatschr f Geburtsh u Gynaek* 1934 98 151
- Molar pregnancy with toxic eclampticiform syndrome malignant degeneration JIMENEZ *Proq de la clin Med* 1935 23 47
- The inner secretory function of the placenta and chorion A VON ARVAY *Endokrinol* 1934 14 309
- The recognition of sex in the unborn fetus L CERNIARDT and B JOZIELSKI *Wiad polska* 1934 13 555
- Endocrine interrelations during pregnancy H SELVE J B COLLIE and D L THOMSON *Endocrinology* 1935 19 152
- Studies on the causes of hyperpigmentation in pregnancy an experimental study of the effect of the female sex hormone folliculin on pigment formation and on the breasts G GULBERG *Arch f path Anat* 1934 294 215
- Prolonged action of the urine of the pregnant woman and of so-called anterior hypophyseal extracts of urinary origin followed by loss of receptivity of the ovary of the rabbit to these hormonal effects K MORIKAWA *Gynec et obst* 1935 31 102
- The venous pressure in pregnancy A RÓVA *Orvos közl* 1934 14 103
- Abdominal circulation during late pregnancy as shown in aortograms W I COLLIS T H OPAZO T B HANCAH and O S DONOSO *Am J Obst & Gynec* 1935 29 566
- Changes in the upper urinary tract in pregnancy J DOZAI *Orvo közl* 1934 24 85
- Prenatal care J R EVANS *Colorado Med* 1935 32 26
- Carotin deficiency of Vitamin A during pregnancy MANZI *Arch di ostet e ginec* 1935 42 77
- Diet during pregnancy with particular regard to albuminuria prophylaxis F JERICO *Acta obst et gynec Scand* 1935 15 12
- The santonian test for the antitoxic function of the liver in pregnancy M PICARDI *Ginecologia* 1935 1 227
- Hypertensio gravidarum C J H de GELIS *Nederl Tijdschr v Gynec* 1934 p 5812
- Hormone studies in hyperemesis gravidarum H ANKYS and IER LALAND *Norsk Mag f Lægevidensk* 1934 95 1324
- Suprarenal cortex therapy in pernicious vomiting of pregnancy W FREEMAN and J M MELICK *Am J Obst & Gynec* 1931 29 602
- Toxemia of pregnancy, its relation to cardiovascular and renal disease clinical and necropsy observations with a long follow up W W HERRICK and J A J B TILMAN *Arch Int Med* 1935 55 643
- Thrombopenia as a toxemia of pregnancy E LOERINCZ *Magy Négyógy* 1934 3 238
- Renal function in the toxemias of pregnancy W J DICKMAN *Am J Obst & Gynec* 1935 29 472 [151]
- Renal function in the toxemias of pregnancy and eclampsia K DE SVOO *Monatschr f Geburtsh u Gynaek* 1934 97 253
- The etiology of essent of hypertension and eclampsia M SCHERS *Polakue Arch Med wewn* 1934 12 515
- Eclampsia and the weather A ZACHMANN *1934 Freiburg i Br Dissertation*
- Protein metabolism and renal function in nephropathy and eclampsia of pregnancy V BOKELMANN and W SCURFRINGER *Arch f Gynaek* 1934 158 442
- Experimental production of eclampsia by guanidine in toxication J L WOODS *Rev franç de gynec et d obst* 1935 30 71
- Pregnancy after nephrectomy A C POSNER *Am J Obst & Gynec* 1935 29 570
- The diagnosis of congenital deformities of the fetus before labor J BERGER *Zentralbl f Gynaek* 1935 p 284
- Intestinal obstruction complicating pregnancy P CHARRONNET *Am J Obst & Gynec* 1935 9 591
- Visual disturbances in pregnancy N AC *Zentralbl f Gynaek* 1935 p 161
- Cardiac accidents in pregnancy FRUMSHOLT *Bull Soc d'obst et de gynec de Par* 1935 24 181
- Isurpura hemorrhagica in pregnancy H W DESALS SORRE and E W TOWNSEND *Am J Obst & Gynec* 1935 29 597
- Secondary purpura hemorrhagica complicating pregnancy L S VICTORIAN *Am J Obst & Gynec* 1935 9 56
- A full term pregnancy complicated by ruptured splenic aneurysm H SERFF and L M STINEK *Am J Obst & Gynec* 1935 29 602
- Cure of the eczema of pregnancy by removal of the septal focus C VOTIC *Zentralbl f Gyna* 1934 p 2619
- The edemas of pregnancy A physiopathological study E LEVY SOLAL *Gynec et obst* 1935 31 205 [152]
- A clinical study of the edemas of pregnancy E GLERISAL *Gynec et obst* 1935 31 240 [152]
- Hemorrhagic encephalitis (neoraphenamine) in obstetrical patients F D LASS and F B WOODS *Am J Obst & Gynec* 1935 29 509
- A contribution to the knowledge of the myelitis of pregnancy E HERRITT *Ginecologia* 1935 1 161 [152]
- Studies of the lipoids of the blood during pregnancy complicated by tuberculosis F CASPERI *Ginecologia* 1935 1 249
- Primary tuberculosis during pregnancy BRONZAR *Kozlitsky and Kozlitsky Bull. et mém. Soc méd. d. hop de Par* 1935 51 478

Carcinoma and pregnancy O VON FRANQUÉ *Monatsschr f Krebsbekpfg*, 1934, 2 368

Carcinoma of the uterus and pregnancy S PELLER *Monatsschr f Krebsbekpfg*, 1934, 2 364

Modifications of the Aschheim-Zondek reaction with abortion W. TATE, JR *Am J Obst & Gynec*, 1935, 29 594

Functional insufficiency of the anterior lobe of the hypophysis as cause of habitual abortion A C KUNZ *Semana méd*, 1935, 42 804

Repeated abortion and thyroid insufficiency, success from opotherapy V LE LORIER and M MAYER *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 122

Corpus luteum extract in the treatment of abortion. F B SMITH and R A JOHNSTON *Texas State J M*, 1935, 30 748

Postabortive anuria with spastic phenomena Decapsulation, chlorine replacement, recovery H CHABANIER, L MICHON, C LOBO-ONEIL, and L LÉLU *Presse méd*, Par, 1935, 43 388 [153]

Soap-water abortion J C BEKER *Nederl Tijdschr v Verloskde*, 1934, 37 293

The induction of abortion and labor by means of estrin A L ROBINSON, M M DATNOW, and T N A JEFFCOATE *Brit M J*, 1935, 1 749 [153]

Chemical contraceptives K E FECHT *Muenchen med Wchnschr*, 1934, 2 1764

Labor and Its Complications

Causes of the onset of labor K KNAUS *Med Klin*, 1934, 2 1649

The membranes in labor N WILLIAMS *West J Surg*, Obst & Gynec, 1935, 43 216

The conduct of normal labor G JELSTRUP *Colorado Med*, 1935, 32 279

Some phases of the conduct of labor J L BAER *South M J*, 1935, 28 345

The pharmacological conduct of labor, a study of the method of action of the expulsive force and resistance during labor F A WAHL *Ztschr f Geburtsh u Gynaek*, 1934, 109 48

Separation of the cord and healing of the umbilical wound A KATZ *Bull Soc d'obst et de gynéc de Par*, 1935, 24 187

External measurement of pains and the course of labor H KOLBOW *Ztschr f Geburtsh u Gynaek*, 1934, 110 38

Recording the number of pains in spontaneous delivery E HELD *Gynéc et obst*, 1935, 31 107 [154]

The shortening of normal labor with simultaneous diminution of the pains F SCHENK and F FRIEDL *Zentralbl f Gynaek*, 1935, p 151.

Rapid and painless delivery following a salt-free régime J KARPATI *Gynéc et obst*, 1935, 31 140

Report of a case of spontaneous partial separation of the uterine cervix during labor J PERL *Ginek polska*, 1934, 13 629

Studies of the delivery of multiparas S VON WACHENFELDT *Acta obst et gynec Scand*, 1935, 15 Supp 1 [154]

Statistical study on the frequency of miscarriage and normal labor in premature deliveries W REICHARDT 1934 Jena, Dissertation

Small doses of extracts of the posterior lobe of the hypophysis during labor GAVAUDAN *Bull Soc d'obst et de gynéc de Par*, 1935, 24 161

Diagnosis of the complications of labor. L W MASON *Colorado Med*, 1935, 32 283

The management of complications E L HARVEY. *Colorado Med*, 1935, 32 287

Dystocia, fetal and maternal T F BUNKLEY *Texas State J M*, 1935, 30 751

Central placenta previa with expulsion without hemorrhage CAMBON *Bull Soc d'obst et de gynéc de Par*, 1935 24 173

Rare mechanism of fetal death in delivery with placenta previa VERDEUIL and CASALTA *Bull Soc d'obst. et de gynéc de Par*, 1935, 24 164.

Central placenta previa treated by the Braxton-Hicks maneuver F GAVAUDAN *Bull. Soc d'obst et de gynéc de Par*, 1935, 24 171

Braxton-Hicks version F C IRVING *New England J Med*, 1935, 212. 718.

The management of vertex occipitoposterior position R E NICODEMUS *Pennsylvania M J*, 1935, 38 497

A case of twins in which the second fetus presented by the thorax H E RODWAY *J Obst & Gynec Brit Emp*, 1935, 42 304

Contraction ring, treatment by amyl nitrite, with observations on the pharmacological action of nitrite C R. CROFT *Proc Roy Soc Med Lond*, 1935, 28. 481. [155]

Premature delivery in the treatment of pelvic disproportion. P BALARD and R MAHON *Rev franç. de gynéc et d'obst.*, 1935, 30 121

Disproportion at the pelvic outlet incident to forceps delivery S HANSON *Am. J Obst & Gynec*, 1935, 29 571

A study of forceps delivery in the obstetrical and gynecological division of the Central City Hospital in Tallinn during the years from 1920 to 1931 H. PERLI *Cesti Arst*, 1934, 13 659

Cesarean section for shortening of the umbilical cord diagnosed during labor R DE GUCHTENEERE, P LAHAYE, and M FOULON. *Bruxelles-méd*, 1935, 15 611.

Voluminous edema of the external genitalia as an indication for cesarean section A ZLATMANN *Rev franç de gynéc et d'obst.*, 1935, 30 79

Transverse section of the lower uterine segment in the technique of cesarean section G REVOLTELLA *Clin ostet*, 1935, 37 164

Analytical study of cesarean section in a hospital service of 9,000 deliveries E G WATERS and B LEAVITT *Am J Obst & Gynec*, 1935, 29 535

Gleanings from 146 cesarean sections W. C HEARIN *J South Carolina M Ass*, 1935, 31 83

Cesarean section and its abuses H J STANDER *Am J Obst & Gynec*, 1935, 29 559

Urinary fistulas following low cesarean section. REEB *Bull Soc d'obst et de gynéc de Par.*, 1935, 24 192

Analgesics in labor J E. STACEY. *Brit M J*, 1935, 1 817

Twilight sleep in obstetrics M GEORGESCU *Wien klin Wchnschr*, 1934, 2 1233

Obstetrical twilight sleep with rectidon E SCHEEL. *Schmerz*, 1934, 7 56

A rare secondary accident following spinal anesthesia for cesarean section R FOURNIER. *Rev franç de gynéc et d'obst*, 1935, 30 148

Puerperium and Its Complications

Postpartum care H J VON DETTEN *Colorado Med.*, 1935, 32 292

A new method of obtaining uterine secretions during the puerperium L BUBLITSCHENKO and E DERTSCHINSKY. *Zentralbl f Gynaek*, 1935, p 2722

A statistical survey of 186 cases of manual removal of the placenta C H. PECKHAM *Bull Johns Hopkins Hosp*, Balt, 1935, 56. 224

Manual separation of the placenta and the value of pituitrin in the postpartum period. F. BACHNER. *Zentralbl f Gynaek.* 1934 p 2676

A clinical comparison of various ergot preparations on the postpartum human uterus. J. J. JOYCE and O. W. BARLOW. *Am. J. Obst. & Gynec.* 1935 20 489 [155]

Puerperal inversion of the uterus. I. VALLETTE. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 174

Inversion of the uterus. GUERIN VALLEAU. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 176

The prophylaxis of atonic postpartum hemorrhage by the intravenous injection of hypophysis. F. DOERER. *Zentralbl f Gynaek.* 1935 p 22

A case of maternal obstetrical palsy. J. Obst. & Gynec. Brit. Emp. 1935 42 306

The value of blood transfusion in a case of postpartum eclampsia complicated by diffuse retinal hemorrhage. GUERIN VALLEAU and SEDAN. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 166

Autogenous infection in relation to puerperal morbidity. R. K. FORD. *J. Obst. & Gynec. Brit. Emp.* 1935 42 207

The incidence of puerperal infection in patients delivered in the hospital as compared to patients delivered at home. M. L. SROUR. *Am. J. Obst. & Gynec.* 1935 29 589

Puerperal infection in the obstetrical and gynecological division of the Central City Hospital in Tallinn during the years from 1920 to 1931. H. PERLI. *Eesti Arst* 1934 13 553

Sudden death due to pulmonary embolism in a case of puerperal endometritis associated with unsuspected supuration in the ruptured symphysis pubis. I. DIERMAN. *Am. J. Obst. & Gynec.* 1935 29 582

Late postpartum phlebitis. CAVALDAN. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 169

Varicocele as a severe complication in the puerperium. T. KORHONEN. *Zentralbl f Gynaek.* 1935 p 160

Newborn

The neonatal period. R. WACHER. *Wien med. Wchnschr.* 1934 2 1609

Cesarean section and the mortality of the newborn. E. SEDLIS. *Cinec. polska* 1934 13 510

Diseases of the newly born infant. N. B. CARON. *Practitioner* 1935 134 403

Epidemic pemphigus in the newborn and Rutter's disease. DAVRO and BASSICRETTE. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 4 150

Cerebromeningeal lesions in the newborn. C. CARRENO and N. A. VANDON. *Semana med.* 1935 42 760

A case of congenital unilateral anophthalmia. M. PAGLIARI. *Cinecologia* 1935 1 103

Prolapse of the bowel in the newborn. H. GRELLY. *Zentralbl f Chir.* 1934 p 1761

Severe congenital icterus due to transplacental colon bacillus infection. J. RAVINA. *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 134

Miscellaneous

The teaching of obstetrics and gynecology in the United States. H. J. STAMPER. *Am. J. Surg.* 1935 28 61

A statistical study on the dependence of fertility in the female on age. H. MURZAKER and K. LÖFFER. *Zentralbl f Gynaek.* 1934 p 2900

When may we allow pregnancy to occur in a woman who has had eclampsia or nephropathy of pregnancy? L. SEITZ. *Monatsschr. f. Geburtsh. u. Gynaek.* 1934 98 120

The late sequelae of eclampsia with special reference to changes in the kidney. T. HAYENEN. *Zentralbl f Gynaek.* 1934 p 3010

Vegetantius insertion of the umbilical cord. F. REZMAN. *Magy. Nőgyógy.* 1934 3 36

A gigantic child and diabetes in the mother. L. FISCHER. *Zentralbl f Gynaek.* 1935 p 242

The origin of chorionepitheliomas and of emboli from trophoblastic fragments enclosed in the myometrium. J. J. CLEWELL and G. H. HANSMAN. *Am. J. Obst. & Gynec.* 1935 29 56

The occurrence of autolytic changes in malignant chorionepitheliomas. A. VON STUERS. *Zentralbl f Path.* 1934 61 337

Comparability of maternal mortality rates in the United States and certain foreign countries. R. L. DE NORMANVILLE. *Am. J. Obst. & Gynec.* 1935 9 610

GENITO URINARY SURGERY

Adrenal, Kidney and Ureter

Ureterectasis of genital origin. R. RIZZI. *Arch. ital. di urol.* 1935 12 200

The occurrence of bone marrow in the supra renal. H. BARTEN. *Arch. f. path. Anat.* 1934 204 139

The symptomatology and diagnosis of upper urinary tract lesions. A. I. COLOSTER. *West Virginia M. J.* 1935 32 135

Cyst of the urachus. J. B. CROSS. *J. Urol.* 1935 33 408

Studies on the capillaries of the renal cortex. T. CALZOLARI. *Arch. ital. di urol.* 1935 12 160

The clinical importance of congenital hypoplasia. D. N. FINE. *Brath. J. Urol.* 1935 33 331 [157]

An anteroply placed renal pelvis. R. K. IRWIN. *Brit. J. Surg.* 1935 22 834

Congenital double hydronephrosis. MASMONTELL and SCHREIBER. *Bull. et mém. Soc. d' chirurgiens de Par.* 1935 27 135

The diagnosis of massive hemorrhages into the renal bed. M. LORWENCK. *Deutsche Ztschr. f. Chir.* 1934 244 207

Renal infections. G. G. SMITH. *New England J. Med.* 1935 212 751

The diagnosis of renal tuberculosis. C. J. BECHER and T. K. FETTER. *Am. J. Surg.* 1935 23 113

The spontaneous healing of renal tuberculosis. E. L. KEYES. *J. Am. M. Ass.* 1935 104 1349

Congenital bilateral renal dysplasia complicated by tuberculosis. C. COLOMBINO. *Arch. ital. di urol.* 1935 12 243

The production and solution of urinary calculi: experimental and clinical studies. C. C. HIGGINS. *J. Am. M. Ass.* 1935 104 1396

The present conception of renal lithiasis. V. S. CORNWELL and J. T. IRELAND. *J. Am. M. Ass.* 1935 104 1309

Calculus in an ectopic kidney. R. T. JONES. *Brit. J. Surg.* 1935 2 836

Bilateral urinary calculi with special reference to therapeutic problems. A. R. STEVENS. *J. Am. M. Ass.* 1935 104 1389

Recurrent urolithiasis. Etiological factors and clinical management. L. D. KEYSER. *J. Am. M. Ass.* 1935 104 1299

- The medical and surgical treatment of calculous anuria
G F CABILL *J Am M Ass*, 1935, 104: 1306
- Nephrotomy for renal lithiasis F Q GUTIÉRREZ.
Cirug y cirujanos, 1934, p 307
- Explanation of late hemorrhage following nephrolithotomy O MUKKELSEN *Lyon chir*, 1935, 32: 162
- A case of hydatid cyst of the right kidney D V FALIN
Vestnik Khir, 1934, 36: 138
- Solitary cysts of the kidney L LINDENFELD *J d'urol méd et chir*, 1935, 39: 119
- Solitary renal cysts, their symptoms when situated at the upper pole of the right kidney W C QUINBY and E. F. BRIGHT *J Urol*, 1935, 33: 201 [159]
- Bilateral cysts of the kidney R POLLOCK *Am J Surg*, 1935, 28: 101
- Traumatic rupture in polycystic degeneration of the kidney L A ODES *Vestnik Khir*, 1934, 36: 86
- The effect of roentgen therapy upon tumors of the kidney A L BOTHE *Am J Roentgenol*, 1935, 33: 529
- Malignant tumors of the kidney L. P. GIBBONS *Pennsylvania M J*, 1935, 38: 471
- Nephrectomy and nephro-ureterectomy for malignant tumors of the kidney W WALTERS and W. F. BRAASCH *Am J Surg*, 1935, 28: 23
- A cystic sarcoma of the kidney simulating a solitary cyst T G I JAMES *Brit J Urol*, 1935, 7: 49
- Improved technique for primary rib resection in operations on the kidney E PFLAUMER *Zentralbl f Chir*, 1934, p 2860
- Surgical intervention in the cases of patients with one kidney S J RIZVACH *Rev de chir*, 1935, 54: 158
- Duodenal fistula due to perinephritic abscess and following nephrectomy N F OCKERBLAD and N G GONZALES *Am J Surg*, 1935, 28: 105
- Malformations of the ureters L MOLLO *Policlin*, Rome, 1935, 42 sez chir 133
- Injuries to the ureters I FARKAS *Magy Nőgyógy*, 1934, 3: 196
- Operative injuries of the ureter I R SISK *Surg, Gynec & Obst.*, 1935, 60: 857
- The effect of morphine upon the human ureter N F OCKERBLAD, H L CARLSON, and J F SIMON *J Urol*, 1935, 33: 356 [159]
- Non-calculus obstructions at the ureteropelvic juncture. C Y BIGOOD and D J ROBERTS *New England J Med*, 1935, 212: 705
- Ureteropelvic dilatation J C. ALVAREZ *Rev méd d Rosario*, 1935, 25: 44
- Ureterectasia without mechanical obstruction Acha-lasia of the ureteral orifices R RIZZI *Arch ital di urol*, 1935, 12: 93 [160]
- The management of ureteral stone, operation versus expectancy and manipulation F E B FOLEY *J Am M Ass*, 1935, 104: 1314
- Direct removal of ureteral calculi DELVAUX *Bruxelles-méd*, 1935, 15: 551
- An aseptic uretero-enterostomy E J POTH *Surg, Gynec & Obst.*, 1935, 60: 875
- Bilateral transplantation of the ureters for exstrophy of the bladder F W BANCROFT *Ann Surg*, 1935, 101: 1128
- Bladder, Urethra, and Penis**
- Cystoscopy and urography J P ROBERTSON and A B LEE *Ann Surg*, 1935, 101: 1101
- The value of cystometry M MUSCHAT *J Urol*, 1935, 33: 366 [160]
- A rare type of valvular obstruction of the neck of the bladder J R LEARMONTH and K H WATKINS *Brit J Surg*, 1935, 22: 879
- Encrusted cystitis CIFUENTES *Prog de la clin*, Madrid, 1935, 23: 140
- Two cases of encrusted cystitis C LÉPOUTRE. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 140
- The repair of bladder fistulas E F SCHMITZ *J Am M Ass*, 1935, 104: 1214
- Primary endometriosis of the urinary bladder, report of one case E. HENRIKSEN *J. Am M Ass*, 1935, 104: 1401.
- The use of irradiation in cancers of the bladder and the prostate H FRUCHAUD *J d'urol. méd. et chir*, 1935, 39: 160 [160]
- Cystoscopic control by radium of bladder cancer. B S BARRINGER *Am J Surg*, 1935, 28: 47
- Measured dosage in the radium treatment of carcinoma of the urinary bladder R G HUTCHISON *Brit J Surg*, 1935, 22: 663
- Suprapubic cystotomy with excision and irradiation in the treatment of malignant tumors of the bladder A HYMAN *Am J Surg*, 1935, 28: 5 [161]
- A device for permanent suprapubic drainage following cystostomy W C STIRLING *J Urol*, 1935, 33: 413
- A method for suprapubic suction J W DRAPEP, JR *J Urol*, 1935, 33: 411
- Silver solution in the lumen of the vas after bladder instillation V J O'CONNOR *J Urol*, 1935, 33: 422
- Stricture of the urethra after traumatic rupture with resulting recto-urethral fistula H BULLOCK *Med J Australia*, 1935, 1: 492
- A new operation for phimosis N DONADIO *Riforma med*, 1935, 51: 292
- The principles of treatment of hypospadias H CABOT, W WALTERS, and V S COUNSELLER *J. Urol*, 1935, 33: 400
- Diphtheria of the penis. M P MOROVSKY *J Am M Ass*, 1935, 104: 1390
- Cancer of the penis, surgical treatment M F. CAMP-BELL *Am J Surg*, 1935, 28: 55
- Genital Organs**
- Implantation of the omentum as a method of stimulation in genital insufficiency G M KOGAN *Vestnik Khir*, 1934, 36: 81
- The treatment of genital tuberculosis in men K S KEFOPHAN *Vestnik Khir*, 1934, 35: 143
- Pseudoprostatism A L WOLBARST *Med Rec*, New York, 1935, 141: 310
- The problem of prostatism F HINMAN *California & West Med*, 1935, 42: 234
- The etiology of so-called prostatic hypertrophy F REISCHAUER *Beitr z klin Chir*, 1934, 160: 460
- Some endocrinological relationships of prostatic hypertrophy, clinical and experimental studies, preliminary report C L DEXING, R. H. JENKINS, and G VAN WAGENEN *J Urol*, 1935, 33: 388
- Vesical neck obstruction, with a discussion on hypertrophy of the prostate among the Chinese L. T KAM *Chinese M J*, 1935, 49: 219
- Experimental hyperplasia of the prostate A S PARKES and S. ZUCKERMAN *Lancet*, 1935, 228: 925
- The treatment of chronic prostatitis L R BORELL *Gac méd de México*, 1934, 65: 267
- Hydatid cyst of the prostate M A POPOV *Vestnik Khir*, 1934, 36: 135
- Tuberculous infection of the prostatic fat following removal of an adenomatous prostate, secondary hypogastric urinary fistula P STURLESE *Arch ital di urol*, 1935, 12: 200
- On the frequency of occurrence of occult carcinoma of the prostate A R RICH *J Urol*, 1935 33: 215 [162]

- Radical cure of carcinoma of the prostate H H YOUNG
Am J Surg 1935 28 32
- Renal insufficiency in prostatic conditions and prostatectomized patients G JASTENSKI J Urol Med et chir 1935 39 131
- The pre-operative, operative and postoperative technique of prostatic resection with the direct vision cold knife instrument G J THOMAS Minnesota Med 1935 28 218
- Conditions of safety in endoscopic resections of the prostate G LUIS Bull et mém Soc d chirurgiens de Paris 1935 27 87
- Transurethral prostatic resection G J THOMSON Minnesota Med 1935 28 224
- New instruments to facilitate prostatic resection O A NELSON J Urol 1935 33 474
- Prostatectomy H KRESEL Zentralbl f Chir 1934 p 2780
- Tamponade of the prostatic couch after the operation of Freyer M V FISLEVICH Vestnik Khir 1934 30 95
- An ectopic testis with suppuration in a pseudohermaphrodite simulating strangulated hernia C SIECA Clin chir 1935 21 190
- Emmoral hernia associated with a partially descended testis J COOR Lancet 1935 228 914
- Clinical aspects and interesting histological changes in eight cases of seminoma of the testis P MARRI Clin y lab 1935 0 105
- Radical operation for teratoma testis F HIRMAN Am J Surg 1935 28 16 [162]

Miscellaneous

- Anatomical studies of the hypogastric ganglionic apparatus of the small pelvis in the infant and the embryo with special consideration of its relation to the genito-urinary tract G LAPAZZI and F CARDINO Arch ital di urol 1934 11 355
- Excretion urography I B BARCLAY and J B BAIRD Brit J Radiol 1935 8 305 [163]
- Certain symptoms due to diseases of the urinary tract which are often diagnosed and treated as of other origin G J HILVER Virginia M Month 1935 62 1
- Spontaneous diuresis F GFRITZEN Acta med Scand 1935 85 154
- Fever therapy for gonococcal infections A U DRS JARDINS L C STEHLER and W C POPE J Am M Ass 1935 105 873 [163]
- Streptococcal metatasis of soft pharyngeal character A BANCIO A MAYLER and C PORESCO Iriale med Par 1935 43 300
- Urinary calculi cause and treatment M B WEDDER California & West Med 1935 42 258
- The treatment of lymphogranulomatosis inguinale—clinical buboes F KLEZENBERGER 1934 Hamburgh Dissertation [164]
- Urinary antiseptics and conditions that favor their action A G COWLES Texas State J M 1935 30 750
- A new device for securing biopsy specimens O S LOWSLEY J Urol 1935 33 417
- Sterilization of the male F ORLICKER Zentralbl f Chir 1934 p 2882

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc

- Studies on the structure and function of bone marrow IV Bone marrow in agranulocytosis R L CLEVER Am J M Sc 1935 189 507
- Osteogenic exostoses NORRIS MOLDOR and WELSH Bull et mém Soc nat de chir 1935 61 302
- Solitary osteogenic exos ovis in patients with osteogenic disease C STEFANELLI Chir d organi di movimento 1935 19 601
- Demeralization of the skeleton S K LIVINGSTON Am J Surg 1935 2 404 [165]
- Mineral metabolism in osteogenesis imperfecta a summary with the report of a case W W SKRABOV and V ION Am J Phys Child 1935 40 954
- Osteogenesis in patients with marble bone disease O H DISJESTRA Ann d anat path 1935 12 131
- The influence of vascularization on the formation of bone in connective tissue and the formation of cartilage G M GILLIARD Arch ital di chir 1934 38 945 [166]
- Changes of the bones in the leukemias I F CRAVER and M M COFFLAND Arch Surg 1935 40 940
- The diagnosis of benign bone diseases R KREMBOECHE Wien klin Wchnschr 1935 1 57
- Acute central osteomyelitis its existence and treatment M FEVRE Rev d orthop 1935 4 105
- Osteochondritis of the growth centers I M OUFETOV Ann Surg 1935 101 1002
- The genesis of bone tuberculosis A N CHISTOVICH Soviet Khir 1935 1 102
- The experimental production of bone tuberculosis A N CHISTOVICH and T S VINOGRADOV Vestnik Khir 1934 30 20
- The biochemistry of surgery at the present time N V OKROV Sovet Khir 1935 1 171
- The evolution of tuberculous osteitis and arthritis P C FORVET Sovet Khir 1935 1 150
- Tuberculosis of a diaphysis report of a case G F BENNETT and H A JONES Arch Surg 1935 105 561 [166]
- Tuberculosis of the distal end of the tibia and fibula D TOROBRINO Chir d organi di movimento 1935 19 545
- Miliary tuberculosis and meningitis in injuries of the bones and joints M M NISLOVSKAYA Sovet Khir 1935 1 131
- Tuberculosis of the bones and joints A symposium of fourteen years work of the Institution for Surgical Tuberculosis in Leningrad I C KORNEV Sovet Khir 1935 1 2
- The Institution for Surgical Tuberculosis in Leningrad P G KORNEV Sovet Khir 1935 1 3
- Surgical tuberculosis and its prevention P G KORNEV Sovet Khir 1935 1 185
- The supplying of simple orthopedic apparatus to patients suffering with tuberculosis of the bones and joints T K KOROBOV Sovet Khir 1935 1 191
- Skeletal blastomycosis a case report S K LIVINGSTON J Bone & Joint Surg 1935 17 490
- Acute atrophy of bone in the roentgenogram H T TRUMPER Vestnik Khir 1934 35 190
- Subchondral bone necrosis and its relation to injury V SCHAEFER Zentralbl f Chir 1935 p 170
- Skeletal hypod granulomatosis J FRASER Brit J Surg 1935 22 800
- The clinical importance of fibrosis in general practice W H M TELLING Brit M J 1935 1 69 [166]

- Von Recklinghausen's disease or parathyroid osteosis
L COURT¹ Rev de chir, 1935, 54 182
- Two cases of myeloma LOMBARD and LE GENISSE
Bull et mém Soc nat de chir, 1935, 61 446
- An unusual case of bone regeneration after complete diaphysectomy on two occasions J W S BLACKLOCK and W RANKIN Brit J Surg, 1935, 22 825
- A rare localization of cartilaginous exostoses J CHRYSOPATHES Arch f orthop Chir, 1934, 34 565
- The relation between chondromatosis and osteochondritis dissecans in the roentgenogram R TOEPFNER Arch f klin Chir, 1934, 181 406
- Cartilaginous inclusions in rachitic bones and their possible relationship to cartilaginous tumors P E McMASTIR J Bone & Joint Surg, 1935, 17 373 [166]
- Heterotopic chondrogenesis, regressive chondromatosis under the effect of distant treatment, osteogenic chondromatosis of tumor type Are benign chondromas tumors? R LERICHE Bull et mém Soc nat de chir, 1935, 16 307
- Large enchondromas in case of dyschondroplasia J K MONRO Lancet, 1935, 228 858
- The influence of dietetic and other factors on the swelling of tissues in arthritis, preliminary report C W SCULL and R PEMBERTON Ann Int Med, 1935, 8 1247
- Some remarks on so-called peri-arthritis and its treatment with novocain injections M O FRIEDLAND Vestnik Khir, 1934, 35 86
- The medical aspects of chronic arthritis R A KINGSFILL Radiology, 1935, 24 413
- Joint syphilis H BEITZKE 1934 Berlin, Springer
- Joint tumors H CHARI 1934 Berlin, Springer
- Ankylosis of the joints W R MACAUSLAND Internat J Med & Surg, 1935, 48 03
- The experimental production of arthritis ankylopoietica K SONNENBERG Arch f path Anat, 1934, 293 724
- Hydatid disease of the muscles R DELGADO and R RILUHAN Rev méd d Rosario, 1935, 25 51
- Hydatid cyst of the muscles O M RUDENKO Vestnik Khir, 1934, 36 140
- Progressive ossifying myositis M YVIN Rev d'orthop, 1935, 42 135
- Tenosynovitis from the standpoint of insurance medicine E NORRMAN Svenska Lakartidningen, 1934, p 1385
- A case of Hand-Schüller-Christian disease S MIRAJI Zentralbl f Chir, 1935, p 323
- Torticollis due to the aberrant sternal portion of the sternocleidomastoid muscle W J STEWART J Bone & Joint Surg, 1935, 17 493
- Injuries to the supraspinatus muscle J T BATE Internat J Med & Surg, 1935, 48 148
- Roentgenographic evidence in the tuberosity of the humerus of recent and old injuries to the supraspinatus tendon attachment L S HENRI Am J Roentgenol, 1935, 33 486
- Tuberculous injuries of the upper extremity N T BLINOV and A N SOVEROVA Sovet Khir, 1935, 1 93
- An exceptional case of undifferentiated sarcoma of the humerus H B THOMAS J Bone & Joint Surg, 1935, 17 478
- Dupuytren's contraction and trauma C H SCHROEDER Arch f orthop Chir, 1934, 35 125
- The mechanism of production of Volkmann's contracture, failure of recovery following perianteral sympathectomy and arteriectomy, final relief from disinsertion of the flexor muscles R LERICHE Bull et mém Soc nat de chir, 1935, 61 295
- Volkmann's contracture, failure of arteriectomy J LEVEUF Bull et mém Soc nat de chir, 1935, 61 300
- Gonococcal tenosynovitis of the hand D W G MURRAY and J R E MORGAN Canadian M Ass J, 1935, 32 374
- The synchondrosis sternalis R JANKER Zentralbl f Chir, 1934, p 2775
- Primary osteomyelitis of the ribs in infants E POLÁK Čas lek česk, 1934, p 1197
- Primary osteomyelitis of a rib in a child two months old E POLÁK Rev de chir, 1935, 54 261
- Sciatica and lumbago as symptoms of changes in the vertebral column J T RASPALE Rev méd de Barcelona, 1935, 12 150
- Scoliosis following tetanus E U KRAMARENKO Vestnik Khir, 1934, 35 90
- Rotatory gliding scoliosis K LINDEMANN Arch f orthop Chir, 1934, 34 601
- Scoliotic vertebral osteosis D M GREIG Edinburgh M J, 1935, 42 205
- The clinical significance of diseases of the intervertebral cartilages B SIMONS Arch f orthop Chir, 1934, 35 43
- External, visible prolapse of the intervertebral fibrocartilages W HAMMERBECK Arch f path Anat, 1934, 204 8
- A rare severe case of spondylolistheses I KOPITS Orvosi hetil, 1934, p 1085
- Tuberculous spondylitis V A MOLCHANOVA Sovet Khir, 1935, 1 27
- The method of cure of tuberculous spondylitis in the adult A JANAS Chir d organi di movimento, 1935, 10 560 [167]
- A severe late sequel to infectious spondylitis S DENGEL Ztschr f orthop Chir, 1934, 62 241
- Calcification of the intervertebral disks; a source of error in the interpretation of roentgenograms R JANKER Zentralbl f Chir, 1935, p 29
- A case of plasmocytoma of the vertebrae T ESPERSEN Ugesk. f Læger, 1934, p 1427
- Acute sacro-iliac strain D D. STOFER J Missouri State M Ass, 1935, 32 133
- A roentgenographic study of certain anatomical peculiarities of the pelvis C CASUCCIO Chir d organi di movimento, 1935, 10 622
- Osteomyelitis of the os pubis in children V A STURM Vestnik Khir., 1934, 35 139
- Unusual changes in the hip joint following a gunshot wound ROLLIER Vestnik Khir, 1934, 35 210
- Congenital coxa vara, report of a case J ZAREMBA J Bone & Joint Surg, 1935, 17 450
- Coxa magna, a condition of the hip related to coxa plana A B FERGUSON and M B HOWORTH J Am M Ass, 1935, 104 808 [167]
- Purulent infections of the hip joint, an analysis of sixty cases F A SLOWICK New England J Med, 1935, 212 672
- Tuberculous coxitis M. M. NISKOVSAYA, N. A. VOLKOVA, and M. E. PETROVSKAYA Sovet Khir, 1935, 1 54
- Tuberculous coxitis V P GRATZIANSKI Sovet Khir, 1935, 1 104
- Physiotherapy in tuberculous coxitis S S GIKHAREV Sovet Khir, 1935, 1 117
- Osteo-arthritis of the hip joint T P McMURRAY Brit J Surg, 1935, 22 716
- Juvenile xanthomatous cystic osteitis of the lower extremity of the femur J A PHILIP Bull et mém Soc nat de chir, 1935, 61 443
- Post-traumatic cyst formation in the head of the femur F KPAUSS Zentralbl f Chir, 1935, p 318
- Hypoplasia and abnormal position of the patella E STRUP Hosp-Tid, 1934, p 1421
- The pathology of congenital genu recurvatum D. S. MIDDLETON Brit J Surg, 1935, 22 696

The frequency of chondromalacia patellae N. S. SILEVSKII Vestnik Khir 1934 35 83
 The sensitive knee joint H. BURELLE DE LA CAMP Arch f orthop Chir 1934 35 50, 73
 The sensitive knee with particular reference to meniscal injuries in miners. R. ANDRESEN Arch. f orthop Chir 1934 35 58, 75
 Roentgenological visualization of pathological mobility of the knee following crucial ligament injury F. FEISENKEIT Zentralbl. f. Chir 1935 p 320
 Injuries to the knee joint A. so-called post traumatic dry knee A. JIKLER. Deutsche Zeitschr. f. Chir 1934 243 792
 Internal para articular ossification of the knee probably of traumatic origin M. R. DESJACQUES Rev d'orthop, 1935 42 149
 Tuberculous gonitis V. T. GELIKOVA Sovet Khir 1935 2 73
 Isolated tuberculous foci near the knee joint N. M. ALKOSKAYA Vestnik Khir, 1934 35 20
 Primary suppurative osteomyelitis of the patella M. G. SKOLJAK Vestnik Khir 1934 35 200
 Giant-cell tumor of the patella. S. A. LYNDE Am. J. Surg. 1935 28 150
 An operatively cured case of osteochondromatosis of the left knee M. TOMOVA and T. SARTO Zentralbl. f. Chir 1935 p 374
 Description of a combined anteroposterior approach to the knee joint. E. F. CAYE. J. Bone & Joint Surg. 1935 17 427
 Anterior tibial apophysis in a patient of fifty nine years. A. CRATER. Rev d'orthop 1935 42 223
 Metastatic melanotic tumor of the tibia C. LASSERRE. J. Bone & Joint Surg. 1935 17 41
 Congenital absence of the fibula LAPASSET and CARY ZAC. Rev d'orthop 1935 42 110 [168]
 Endosteal fibroma of the fibula D. F. CAPPELL. Brit J. Surg. 1935 22 891
 A bandage for use in dislocation of the peroneal tendons A. HIRAGARD Muenchen med. Wchnschr. 1934 2 2608
 The influence of the shoe on gait as recorded by the electrobasograph and slow motion moving pictures R. P. SCHWARZ A. L. HEATH and W. MILLER J. Bone & Joint Surg. 1935 17 406
 Ses excavatus E. MOEN Norsk Mag. f. Lægevidensk. 1934 95 1441
 Talipes equinovarus D. BROWNE Practitioner 1935 34 525
 Hallux valgus and its treatment. N. T. KAEFER Vestnik Khir 1934 35 95

Surgery of the Bones Joints Muscles Tendons Etc

The closure of chronic osteomyelitic cavities by plastic methods J. P. LORO Surg. Gynec. & Obst. 1935 60 851
 The treatment of tuberculous fistulas of the bones and joints by excoculation. T. B. OLESKEVITCH Vestnik Khir, 1934 35 233
 Operative treatment of congestive abscesses S. D. VOLOVA Vestnik Khir 1934 35 40
 Restorative operation for malignant bone neoplasms R. R. VREDEN Vestnik Khir, 1934 36 3
 The present status of bone grafting J. KROBLOCH Roehli Chir. a Gynaek. Chir. 1934 73 191
 Experimental data regarding bone plompage in connection with bone regeneration. B. A. CHACHAVA Vestnik Khir 1934 35 54

The relative value of radiotherapy, physical therapy and hyperpyrexia in the treatment of arthritic disturbances. J. C. KING Radiology 1935 24 472
 Surgery as an adjunct to the treatment of arthritis W. C. CAMPBELL. Radiology 1935 24 395
 Indications contra indications and late results of the Duvernay operation. J. C. RABER DUVERNAY Lyon chir 1935 32 182
 The operative route to the cavitas glenoidalis scapulae M. V. ALFEROV Vestnik Khir 1934 35 164
 A simple method of arthrodesis of the wrist S. KOFMAN Zentralbl. f. Chir, 1935 p 88
 The correction of the gibbus S. L. TREGBOV Vestnik Khir 1934 35 100
 The technique of ankylosing graft of the spine in an infant. R. MASSART Bull. et mêm. Soc. d. chirurgiens de Par. 1935 27 76
 The indications for surgery in juxta-epiphyseal injuries of bones near the hip joint. T. B. KRASNOBOLTOV Vestnik Khir 1934 35 65
 Operative treatment of isolated tuberculous foci near the hip joint V. A. MOLCHANOVA and D. K. KNOKELOV Vestnik Khir 1934 35 12
 Mu. all tuberculous juxta-cortical arthritis be operated upon? L. D. SREJE Vestnik Khir 1934 35 280
 Osteotomy in coxitis and gonitis A. M. DOLGOVA Sovet Khir 1935 2 3
 Arthrodesis for tuberculosis of the hip R. I. HARRIS. J. Bone & Joint Surg. 1935 17 318
 Extra articular arthrodesis in tuberculous coxitis V. I. KRUPNIKOV Vestnik Khir 1934 35 34
 Thirty three cases of economical radical operation in tuberculous coxitis V. S. GELIKOVA Vestnik Khir 1934 35 36
 Hip-joint fusion and the shelf operation. P. M. GIKARD J. Bone & Joint Surg. 1935 17 443
 The shelf operation on the acetabulum M. CALLAND Bull. et mêm. Soc. d. chirurgiens de Par. 1935 27 218
 The medial access to the distal part of the femur in osteomyelitis V. BABUCK Vestnik Khir 1934 35 171
 Intermusculo-abdominal (hind-quarter) amputation. G. GORDON TAYLOR and P. WILES Brit. J. Surg. 1935 22 671
 The treatment of traumatic flail knee G. HOFMANN Zentralbl. f. Chir 1935 p 145 [168]
 A simple expedient for the treatment of acute and chronic synovitis of the knee joint following trauma. C. R. G. FORRESTER Am. J. Surg. 1935 28 145
 The surgical treatment of benign tumors of the knee joint by Juvana's operation I. GREGORSEN and A. VASSILOV Beitr. z. klin. Chir. 1934 170 525 [169]
 Plastic repair of the ligamentum patellae by the method of von Verth A. WITTEK Schweiz. med. Wchnschr. 1935 1 173
 The treatment of congenital pseudarthrosis of the tibia by means of a graft taken from the mother R. MASSART Bull. et mêm. Soc. d. chirurgiens de Par. 1935 27 78
 An operation for the correction of prona ed feet R. STEPHENS J. Bone & Joint Surg. 1935 17 424
 Transverse wedge arthrodesis for the relief of pain in rigid flat foot. I. ZADEK J. Bone & Joint Surg. 1935 17 453
 Ankle bone block for paralytic drop foot. I. C. WANNEN Ann. Surg. 1935 101 1091
 The operative treatment of hollow foot. A. FARKAS J. Bone & Joint Surg. 1935 17 30
 Tendon transplantation with silk in paralytic pes cavus H. WATERMANN Arch. f. orthop Chir. 1934 34 583
 The operative treatment of pes valgus paralyticus. T. FAEFER Vestnik Khir 1934 36 7

Posterior access to the talocrural articulation (cadaver experiments). A S SURJE Vestnik Khir, 1934, 35 169
Late results of arthrodosis of the talocrural articulation by the method of Lexer and Boraz T L PEVSNER Vestnik Khir, 1934, 35 176.

The operative treatment of tuberculosis of the calcaneus A N SOVETOVA Vestnik Khir, 1934, 35 47

The treatment of hallux valgus, personal technique A TRÈVES Bull et mém Soc d chirurgiens de Par, 1935, 27 33

Operations for hallux valgus and their functional results P A. PÁZSITH Orvostképzés, 1934, 24 336

Fractures and Dislocations

Organization of the treatment of fractures E W HEY GROVES Brit M J, 1935, 1 813 [169]

Modern first aid and transportation splints, and the reduction of pain and expense in fracture cases R C WEBB Internat J Med & Surg, 1935, 48 154

The operative treatment of closed fractures A T VASILJEV and N. A. ZAPOLSKAYA Vestnik Khir, 1934, 36 126

Modifications in the treatment of fractures of the diaphyses V SCHEIBER Orvostképzés, 1934, 24 160

The fixation of oblique or comminuted diaphyseal fractures J GOSSET Presse méd, Par, 1935, 43 429

A steel screw for reduction of fractures complicated by dislocations S A NOWOTELNOV. Arch f orthop Chir, 1934, 34 713

Picture-nail extension in the treatment of fractures HILGENFELDT. Arch f orthop Chir, 1934, 35 108

Follow-up investigations regarding the injurious effect on bones of buried large metal bodies used in the treatment of fractures J RUHL Arch f orthop Chir, 1934, 34 615 [169]

Bone graft from mother to infant R MASSART Bull et mém Soc. d chirurgiens de Par, 1935, 27 142

The spring pressure of the open plaster cast N GRZYWA Zentralbl f Chir, 1934, p 2921

Improvement of axial dislocations from fractures by means of plaster casts E DÁNIEL Orvosi hetil, 1934, p 1109

A modification of the Boehler walking iron D HAND J Bone & Joint Surg, 1935, 17 497

Causes of pseudarthrosis in the diaphysis of the long bones of the extremities A HELLSTADIUS Med Welt, 1935, p 186

The use of periosteal rib grafts in the treatment of pseudarthrosis of the long bones F BREUER Arch f orthop Chir, 1934, 35 50

The treatment of dislocation of the shoulder W MAIER Zentralbl f Chir, 1935, p 205

Fracture of the coracoid process of the scapula W P COVES New England J Med, 1935, 212 727

Fracture of the external condyle of the humerus in children J H HEYL Ann Surg, 1935, 101 1069 [170]

A method of applying traction in T and Y fractures of the humerus R F PATTERSON J Bone & Joint Surg, 1935, 17 476

Open reduction of supracondylar fractures of the humerus in children J LEVEUF and H GODARD J de chir, 1935, 45 358 [170]

Fracture of the capitellum, report of a case M S MAZEL J Bone & Joint Surg, 1935, 17 483

Conservative treatment of fracture of the capitellum F CHRISTOPHER and L F BUSHNELL J Bone & Joint Surg, 1935, 17 489

The treatment of supracondylar fractures of the elbow in children G SCOLLO Policlín, Rome, 1935, 42 sez chir 183

Fractures of the forearm An analysis of 415 cases, with special reference to disabilities B J HEIN. J Bone & Joint Surg, 1935, 17 272 [170]

A light inexpensive frame for transfexion-wire traction on fractures of the forearm and leg E W CLEARY. J Bone & Joint Surg, 1935, 17 494

Palmar dislocation of the right ulna C FINAZ Rev. méd. de la Suisse Rom, 1935, p 229

Isolated non-reducible fracture of the middle third of the radius A L JENSEN J Iowa State M Soc, 1935, 25 196

The end-results of the fractured distal radial epiphysis A P AITKEN J Bone & Joint Surg, 1935, 17 302

Dislocations of the wrist W SCHWARZ Arch f orthop Chir, 1934, 35 122

Rotation in supination of the lunate bone as a hindrance to reduction of dislocation F G SCHNEK Arch f orthop Chir, 1934, 34 580

The treatment of navicular fractures and pseudarthroses W HOFFMEISTER Zentralbl f Chir, 1934, p. 2960

A case of sternal fracture, dislocation between the manubrium and corpus G HERBERTS Svenska Lakartidningen, 1935, p 147

Traumatic injuries to the cervical vertebrae BAUMECKER Arch f orthop Chir, 1934, 35 40

A severe unreduced injury of the vertebral column W KANERT Beitr z klin Chir, 1934, 160 484.

Backward displacement of the fifth lumbar vertebra, an optical illusion T A WILLIS J Bone & Joint Surg, 1935, 17 347

Fracture dislocation of the cervical vertebrae B BREITNER Schweiz med Wchnsch, 1934, 2 617

Fractures and dislocations of the cervical spine O C HUDSON J Bone & Joint Surg, 1935, 17 324.

Isolated fracture of the odontoid process of the axis. M AGRIFOGLIO Chir d organi di movimento, 1935, 19 577 [171]

Compression fractures of the spine F A JOSTES J Missouri State M Ass, 1935, 32 136

Fractures of the vertebral laminae HELLNER Arch f orthop Chir, 1934, 35 40

Fracture of the vertebral column; method of producing lumbar lordosis R SCHOTTE Presse méd, Par, 1935, 43 395

Fracture or costal rudiment of the second and third lumbar vertebrae? R JANKER Zentralbl f Chir, 1934, p 2778

Fractures of the spine, a report of 301 cases with special reference to treatment and end-results C W STALLARD South. M. J., 1935, 28 295

Congenital dislocation of the hip F SCHEDE Jkurse aerztl Fortbild, 1934, 25 1

The treatment of congenital dislocation of the hip F BAUER Chir d organi di movimento, 1935, 19 539

Koenig's operation in the treatment of congenital dislocation of the hip G J EPSTEIN and N S EPSTEIN J Bone & Joint Surg, 1935, 17 309

Old traumatic dislocation of the hip, open reduction after resection of the head of the femur J LEVEUF Bull. et mém Soc nat de chir, 1935, 61 435

The treatment of irreducible traumatic dislocations of the hip P MATHEU Bull et mém Soc nat. de chir, 1935, 61 425

Obturator dislocation of the hip of four and one-half months' duration, arthroplastic resection; late result. MICRON and QUERNEAU Bull et mém Soc nat de chir, 1935, 61 430

Fractures of the hip P H KREUSCHER Internat. J Med & Surg, 1935, 48 130

Fractured hips snags and pitfalls W DOOLAN Irish J M Sc 1935 No 112 152

Two cases of isolated traumatic rupture of the symphysis T LILLEJORD Norsk Mag f Lægevidensk 1934 93 14 6

The use of the Jones splint in the treatment of fracture of the pelvis and of the neck of the femur a series of thirty cases A J LYNCH J Bone & Joint Surg 1935 17 435

Injuries involving the ilium A new treatment S A JAMES J Bone & Joint Surg 1935 17 338 [171]

Avalution of the epiphysis of the iliac crest S LELAND BRG Ann Surg 1935 101 1078

Slipping of the proximal femoral epiphysis The therapeutic results in 101 cases M M JONES and M F STONE Arch Surg 1935 30 60

Separation of the capital femoral epiphysis A R MACALISLAND J Bone & Joint Surg 1935 17 353 [172]

Intracapsular fractures of the neck of the femur A simple method for properly placing the bone graft J V LICK J Bone & Joint Surg 1935 17 112

The operative treatment of fracture of the neck of the femur F FELDRICH Beitr z klin Chir 1934 160 620

A contribution on the operative treatment of fracture of the neck of the femur O VOSS Beitr z klin Chir 1934 160 6

A positive treatment for fractures of the shaft of the femur a preliminary report emphasizing ambulatory treatment R A GRIFFOLD Surg Gynec & Obst 1935 60 818

The Smith Petersen technique of introducing a suture into the neck of the femur without arthrotomy M M D'ALMEIDA Presse med Par 1935 43 555

Irreducible lateral dislocation of the knee G FISHER Chir d'organ di movimento 1935 10 520

Comminuted fractures of the patella treatment of cases presenting one large fragment and several small fragments J L M THOMSON J Bone & Joint Surg 1935 17 435

An ambulatory method of treating fractures of the patella K ANDERSON Ann Surg 1935 101 1082

Dislocation of the head of the fibula without fracture W D SMALL U S Nav M Bull 1935 33 264

The treatment of open fractures of the leg J M DE LA PIERRE Med Ibera 1935 19 453

The duration of healing in fractures of the leg OSTERMANN Arch f orthop Chir 1934 35 114

The os triquetrum of Bardeleben and the fractures of Shepherd R E PARSONS Bol Soc de cirug de Rosario 1934 1 446

Two rare causes for fractures of the os calcis F JIMENEZ VIDAL Zentralbl f Chir 1935 p 316

The treatment of fractures of the os calcis H R COVY J Bone & Joint Surg 1935 17 392 [173]

A new method of treating fractures of the os calcis WESTERLUND Arch f orthop Chir 1934 35 122

The differential diagnosis of metatarsal fractures and Deuschleanders disease A ZETTLIN and I ORESKY Arch f orthop Chir 1934 34 613

Fracture of the tarsal scaphoid J L LAPEYRE and R I MENDEZ LLANUZ Rev d'orthop 1935 42 120

Orthopedics in General

Backache R L ANDERSON West Virginia M J 1935 31 163

Mechanics of the physical signs in lower trunk injuries I BRADY Surg Gynec & Obst 1935 60 802

Selected cases of surgery of the extremities E SOYAC Ztschr f aertzt Fortbild 1934 31 589 621 647 681 700

Justification for high amputation in improvement of the stump MAGNUS LARSEN and SMITH Chirug 1934 6 795

Isrogoff amputation ZL WERTH Arch f orthop Chir 1934 35 52

The source of pain in amputation stumps in relation to the rational treatment A C MORITZOFF J Bone & Joint Surg 1935 17 419

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

Two cases of injury to the blood vessels J C COLLIER Brit M J 1935 1 160

Peripheral vascular disease G DE FARATS J Am M Ass 1935 304 140 [174]

The surgery of gangrene of the extremities with a study of 171 cases from the records of the New Orleans Charity Hospital J R VEAL and F M McFERRISON Surg Gynec & Obst 1935 60 740

Decompression of the femoral vessels together with the Foudoleon operation for congenital elephantiasis in a child report of a case B M BERNHEIM South M J 1935 28 320

Some aneurysmographs with their treat I FRICH and A LEVI Lyon chir 1935 32 109 [175]

Seventy seven cases of arteriography WERTHEIMER and ZILBER Bull et mém Soc nat de chir 1935 61 361

Arteriography of the lower extremities M VAZARZ Cirug y cirujanos 1934 p 311

Accidents occurring in arteriography MONOD I ELIN RACINE and RESOUL Bull et mém Soc nat de chir 1935 61 183

Indications for arteriography in the study of arteritis NAZZARI and COVATTE Rev de chir 1935 54 212 [176]

Diseases of the peripheral arteries F V ALLEN J Kansas M Soc 1935 36 133

Ischaemic nodosa report of a case with fatal perirenal hemorrhage C H WEVER and I H PERRY J Am M Ass 1935 104 1390

Venous aneurism H DEVI FOWLER Internat J Med & Surg 1935 48 113

Traumatic popliteal aneurism G PANDS Bull et mém Soc nat de chir 1935 61 454

The therapy of the neck County Hospital Therapy of arterial thrombosis of the extremity B FANTIS and G W SULLIVAN J Am M Ass 1935 104 1220

Arterial embolectomy J. PIZZACCI Clin chir 1935 11 49 [177]

Observations on the effect of an arteriovenous fistula on the human circulation L B LAPLACE Am J M Sc 1935 180 437

Primary thrombosis of the axillary vein H C BALLOD Canadian M Ass J 1935 32 414

The genesis of distant thrombosis A LENGENHAFER Deutsche Ztschr f Chir 1934 244 7

Thrombo-angitis obliterans F D TELFER and J S B STORFORD Brit M J 1935 1 863

Traumatic fat embolism F H HANSEN Ugesk f Læger 1934 p 1201

Blood; Transfusion

The peripheral blood picture, its diagnostic and prognostic significance M. M. ALTSHULER and A. N. KHASIN *Vestnik Khir*, 1934, 35 130

A study of the diagnostic value of sternal puncture in clinical hematology C. REICH *Am J M Sc*, 1935, 189 515

Medicolegal applications of blood grouping A. S. WIENER *Canadian M Ass J*, 1935, 32 393

Tests of the compatibility of blood before transfusion A. PARIS *Presse méd*, Par, 1935, 43 590

Community control of professional blood donors E. H. L. CORWIN *New York State J M*, 1935, 35 317

Continuous drip blood transfusion H. L. MARRIOTT and A. KEKWICK *Lancet*, 1935, 228 977 [174]
Blood transfusion in general infection O. A. LEVIN and N. G. KARTASHEVSKY *Vestnik Khir*, 1934, 36 106

Lymph Glands and Lymphatic Vessels

Hodgkin's disease G. F. S. DAVIES *Med J Australia*, 1935, 1 199 [175]

The relationship between the histological structure of Hodgkin's lymphogranulomatosis and its response to treatment G. PITTALUGA *Med Ibera*, 1935, 19 493

Lymphadenoma H. RITCHIE *Med J Australia*, 1935, 1 197 [175]

SURGICAL TECHNIQUE**Operative Surgery and Technique;
Postoperative Treatment**

The flow of blood in relation to anesthesia and operation F. C. MANN, H. E. ESSEX, J. F. HERRICK, and L. J. BALDES *West J Surg, Obst & Gynec*, 1935, 43 177

The rôle of plastic surgery in burns due to roentgen rays and radium S. R. H. D. GILLIES and A. H. MCINDOE *Ann Surg*, 1935, 101 979 [176]

The technique of tying surgical knots T. T. BULYIN *Vestnik Khir*, 1934, 35 183

Postoperative treatment E. MELCHIOR 1934 Leipzig, Barth

Postoperative physiopathology C. DENIEL, I. FLORIAN, and A. SOIMARU *Gynec si obst*, 1934, 10 51

Autohemotherapy VORSCHULTZ *Ztschr f aerztl Fortbild*, 1934, 31 703

Surgical shock, some notes on causation and treatment I. D. MILLER *Med J Australia*, 1935, 1 522

The prevention of postoperative embolism and phlebitis H. A. GAMBLE *Am J Surg*, 1935, 28 93

The prevention of postoperative thrombosis and embolism W. KOENIG *Ztschr f aerztl Fortbild*, 1934, 31 706

Progressive postoperative gangrene of the skin A. M. STEWART-WALLACE *Brit J Surg*, 1935, 22 642 [176]

The causes of postoperative deaths in the eleven years from 1922 to 1932 in the surgical clinic at Klausenburg J. JACOBOWICZ and J. MURESAN *Rev Chir*, 1934, 37 369 [177]

**Antiseptic Surgery, Treatment of Wounds
and Infections**

Accidental injuries, their compensation and rehabilitation in the United States H. H. KESSLER *Proc Roy Soc Med*, Lond, 1935, 28 763

The primary treatment of wounds W. DRACKLÉ *Deutsche med Wchnschr*, 1934, 2 1838

The use of cod-liver oil (Loehr) in the treatment of wounds A. ZENO and G. SCHNEIDER *Bol Soc de cirug de Rosario*, 1934, 1 426

The treatment of burns M. E. PUSITZ *J Kansas M Soc*, 1935, 36 148

The treatment of large burns with and without tannic acid S. BER Arch f orthop Chir, 1934, 35 110

The technique of treating diffuse phlegmons of the hand and forearm DIAZ and GÓMEZ *Med Ibera*, 1935, 10 436

Wound infection and lymphangitis J. W. LOOS *Monatsschr f Unfallheilk*, 1934, 41 612

The treatment of furuncles and carbuncles W. H. WHITMORE *U S Nav M Bull*, 1935, 33 243

The treatment of tetanus A. SWAIN *Chinese M J*, 1935, 49 232

Avertin as an auxiliary therapeutic measure in tetanus H. S. MITCHELL *Canadian M Ass J*, 1935, 32 415

Gas-bacillus infection MCK. HANCHETT *West J Surg, Obst & Gynec*, 1935, 43 199

Ascaris and surgical diseases V. T. ROGDESTVENSKY *Vestnik Khir*, 1934, 36 52

Zinc peroxide in the treatment of micro-aërophilic and anaerobic infections F. L. MELENEY *Ann Surg*, 1935, 101 997

Bacteriological diagnosis of anthrax and the serum treatment of anthrax K. PETZELT *Med Welt*, 1934, p 1755

Effective treatment of arachnidism by calcium salts A preliminary report E. W. GILBERT and C. M. STEWART *Am J M Sc*, 1935, 189 532

A case of glanders in man F. F. TANG, S. H. LIU, and L. S. KAU *Chinese M J*, 1935, 49 248

Edema of the dorsum of the hand in infections of the dorsal surface A. PELLÉ *Bull et mém Soc nat de chir*, 1935, 61 329

Stimulation of healing in non-healing wounds by allantoin occurring in maggot secretions and of wide biological distribution W. ROBINSON *J Bone & Joint Surg*, 1935, 17 267

Anesthesia

Some observations on certain welfare phases of the specialty of anesthesia S. GARDNER *Anes & Anal*, 1935, 14 49

Some remarks about analgesia on men affected by toxic gases V. A. SCHAAK *Vestnik Khir*, 1934, 35 72

Evaluation of risks for dental and oral surgery J. B. WOODMAN *Anes & Anal*, 1935, 14 72

Observations in the blocking of the superior laryngeal nerve E. MALAN *Anes & Anal*, 1935, 14 77

The treatment of heart failure by continuous oxygen therapy A. L. BARACH *Anes & Anal*, 1935, 14 79

Anesthesia in surgery of the rectum and sigmoid M. S. WOLF *Anes & Anal*, 1935, 14 88

Clinical experiences with the use of trichlorethylene in the production of over 300 analgesias and anesthetics C. STRIKER, S. GOLDBLATT, I. S. WARM, and D. E. JACKSON *Anes & Anal*, 1935, 14 68

Signs and phases of cyclopropane anesthesia F. T. ROMBERGER *Anes & Anal*, 1935, 14 65

The stability of USP ether after the metal container has been opened, with preliminary results of a clinical

comparison of USP ether in large drums with ether in small cans labeled for anesthesia" H. GOLD and D. GOLD. *Anes. & Anal.* 1935 14 92

Evipan sodium anesthesia. A. W. WOO. *Chinese M. J.* 1935 49 351

Sodium evipan anesthesia in colonial surgery. R. SCHREYER. *Bull. et mém. Soc. nat. de chir.* 1935 61 396

Three hundred and twenty five anesthetics induced with intravenous sodium evipan in colonial surgery. F. BOXER. *Bull. et mém. Soc. nat. de chir.* 1935 61 396

Evipan sodium as an intravenous anesthetic for minor surgical operations. H. K. WANG. *Chinese M. J.* 1935 49 351

Intravenous sodium-evipan anesthesia in urology. M. NOTAR. *Arch. ital. di urol.* 1935 12 149

Evipan as an intravenous anesthetic. R. JARMAN and A. J. ABEL. *Anes. & Anal.* 1935 14 34

Carbon dioxide in general anesthesia. B. BANDERA. *Cirug. y cirujanos* 1935 p 17

Fleven hundred cases of spinal anesthesia. S. T. UTARELIDZE. *Vestnik Khir.* 1934 36 103

The technique of the high spinal anesthesia. H. G. GARD. *Acta chirurg. Scand.* 1935 6 287

The use of high spinal anesthesia in surgery and gynecology. M. A. DOBRICIN. *Vestnik Khir.* 1934 36 141

Two deaths from spinal anesthesia. J. F. CASIS. *Bol. Soc. de cirug. de Rosario* 1934 1 415

PHYSICOCHEMICAL METHODS IN SURGERY

Röntgenology

The electrical characteristics of constant high voltage generators for X ray work. G. E. BELL. *Brit. J. Radiol.* 1935 8 218

A direction indicator for roentgen tubes. M. STRANDQVIST. *Acta radiol.* 1935 16 304

Lateral roentgenography of the neck of the femur. L. JONES. *Am. J. Roentgenol.* 1935 33 504

A technique for the roentgen examination of the lumbo-sacral articulation. P. C. WILLIAMS and P. E. WIGBY. *Am. J. Roentgenol.* 1935 33 511

Roentgen diagnosis of chronic arthritis. H. I. DOUG. *Radiology* 1935 24 391

The practical realization of stratigraphy. G. BOZZETTI. *Radiol. med.* 1935 22 257

Some observations on the interpretation of roentgen ray films. C. F. BOWEN. *Internat. J. Med. & Surg.* 1935 45 102

The advantages of intensified oral cholecystography. W. H. STEWART and H. F. ILLIOTT. *Am. J. Roentgenol.* 1935 33 624

A roentgenological study of the normal and pathological satellite shadows of the ribs. L. GALLAVRESI. *Radiol. med.* 1935 22 362

Pathological lesions correctly diagnosed by roentgenological methods and later missed at surgical exploration. C. MOORE. *Virginia M. Month.* 1935 62 25

Cineradiography. R. J. REYNOLDS. *Am. J. Roentgenol.* 1935 33 512

Kymeroentgenography of the lung. C. LOLA and G. LO MONACO. *Radiol. med.* 1935 22 297

Certain aspects of roentgenology of the spine from the orthopedic viewpoint. R. W. LEWIS. *Am. J. Roentgenol.* 1935 33 491

Experimental realization of the international unit. W. H. LOFT. *Brit. J. Radiol.* 1935 8 257

Dosage in radiational therapy. K. PATERSON. *Brit. J. Radiol.* 1935 8 155

Experimental investigations of some dosage conditions in the technique of roentgen treatment used in Sweden. R. THORVEX. *Acta radiol.* 1935 16 169

Nourishment in cases of radiological reaction in the mucous membranes of the mouth and throat. A. FALSTIERNA. *Acta radiol.* 1935 16 301

A biological study of the action of X rays on malignant tumors, especially on the attitude of the stromal tissues of malignant tumors to X rays. V. and V. The attitude of the blood vessels to X ray irradiation. VII. Histological finding of connective tissues and wandering cells in irradiated tumors. VIII. Regressive degeneration of tumor

tissues by X ray irradiation and the epitome of the parts. H. KAWAKAMI. *Jap. J. Obst. & Gynec.* 1935 18 151

Irradiation measurements on individuals working with roentgen rays. S. BENNER. *Acta radiol.* 1935 16 185

Changes in susceptibility of drosophila eggs to X rays. II. Correlation of biological activity and radiosensitivity. P. S. HENSHAW. *Radiology* 1935 24 438

Radium

On the therapeutic importance of the secondary β rays. S. BENNER and B. STELLMAN. *Acta radiol.* 1935 16 233

Biological and biochemical effects of the gamma rays with particular reference to the simultaneous effect of other factors. A. FORSSBERG. *Acta radiol.* 1935 16 204

Supplementary note on the biological response to gamma rays of radium as a function of the intensity of radiation. F. C. SPEAR. *Brit. J. Radiol.* 1935 8 231

A small platinum needle designed for the use of various strengths of radium element interstitially. N. TREVES. *Am. J. Roentgenol.* 1935 33 537

Types of malignant disease treated by radium at the Cancer Relief and Research Institute in Manitoba. D. NICHOLSON. *Canadian M. Ass. J.* 1935 31 472

Miscellaneous

The canalization of neutrons. T. A. CHALMERS. *Brit. J. Radiol.* 1935 8 163

Ionization circuit plans for an inexpensive unit. D. MACPHERSON. *Arch. Otolaryngol.* 1935 21 456

Heliotherapy. J. M. JORGE and J. R. DIETZEL. *Semana méd.* 1934 41 1233

Photodynamic sensitization: biological action and therapeutic application. A. L. MITCHELL. *Proc. Roy. Soc. Med. Lond.* 1935 28 633

Temperature determinations in the female pelvis during diathermy. F. A. HOKOWITZ, D. DEROW and W. BIERMAN. *Am. J. M. Sc.* 1935 149 555

Short waves. J. DE NOBLE. *Bruxelles-méd.* 1935 15 541

The biological action of short waves. The action on ferments. G. FAR and P. MESTRE. *Riforma med.* 1935 51 799

Short wave diathermy. A. POZZI. *Ginecologia* 1935 1 204

Short wave diathermy preliminary report. F. H. FALKNER. *J. Am. M. Ass.* 1935 104 1237

Recent progress in electrically produced gamma radiation. A. SONLAND. *U. S. Nav. M. Bull.* 1935 33 237

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

Craniofacial congenital aplasia and congenital malformation of the fingers. GRÉGIN. *J. de méd. de Bordeaux*, 1935, 112, 171.

Molcan cleft of the lower lip and mandible cleft sternum, and absence of basiloid, report of a case. C. B. MORGAN and H. E. JORDAN. *Arch. Surg.*, 1935, 30, 647.

Cleft hand and cleft-foot with oligodactylia. A. W. KELLNER. *Klin. Wchnschr.*, 1934, 2, 1507.

Two brothers, members of a family with "lobster-claw" (split hand and split-foot deformity), one showing the skeletal deformity and the other anhidrosis. L. H. SWEET and A. SORSEN. *Proc. Roy. Soc. Med., Lond.*, 1935, 28, 225.

Congenital absence of the sacrum. W. R. HAMEL. *Arch. Surg.*, 1935, 30, 657.

A case of Madura foot. M. BORREROLOZZI. *Chir. d. organi di movimento*, 1935, 19, 611.

Organic control of growth and new growth. W. W. KERRICK. *Am. J. Surg.*, 1935, 25, 67.

Traumatic and hemorrhagic shock. An experimental and clinical study. G. K. COOPER, P. S. FOISSE, H. F. ROBERTSON, and O. E. ATFRANC. *New England J. Med.*, 1935, 212, 647. [181]

The present status of the problem of traumatic shock. F. C. MANN and H. E. ESSEX. *Am. J. Surg.*, 1935, 25, 109.

A case of hemolytic shock cured by the method of Hesse and Fibbe. A. G. BOGIVA. *Vestnik Khir.*, 1934, 36, 143.

Traumatic neuritis. I. M. ALTSHTER. *J. Michigan State M. Soc.*, 1935, 34, 236.

The pathogenesis of so-called traumatic edema—neuritic edema. F. OZARICH. *Monatsschr. f. Unfallheilk.*, 1934, 41, 481. [181]

Psoriasis of the hand and fingers. G. P. KOVTSOV. *Vestnik Khir.*, 1934, 35, 106.

Tuberculosis of the axilla and vulva. R. HANES. *J. Michigan State M. Soc.*, 1935, 34, 143.

Albers-Schönberg disease. J. H. ROOT. *Am. J. Dis. Child.*, 1934, 40, 604.

Metastasis in benign struma. S. M. RUBASHOV. *Vestnik Khir.*, 1934, 35, 9.

Pulmonary metastasis, a pathological, clinical, and experimental study based on seventy-eight cases seen at autopsy. J. T. FARRELL, JR. *Radiology*, 1935, 24, 444.

So-called mixed tumors of the mucous and salivary gland type occurring in the skin and subcutis, and their treatment. H. I. ARLESON. *Acta radiol.*, 1935, 16, 178. [182]

Malignant endotheliomas. R. KLAVER and W. LEVITT. *Proc. F. A. Soc. Med., Lond.*, 1935, 25, 511.

The transplantation of uninjured tumor cells. O. GALT and S. WARREN. *New England J. Med.*, 1935, 212, 111.

An inflammatory tumor of the index finger following a gun injury. J. ARLE. O. R. KATSEVICH, and F. L. NIKSO. *Soviet Med.*, 1935, 42, 937.

Cervical teratoma. R. STRAETHANS. *Bruxelles Med. Soc.*, 1935, 15, 127.

Prevalence of malignant tumors. C. S. BEGVIS. *Revista de Rosario*, 1934, 1, 449.

Malignant neoplasms of the skin and their treatment by the R. K. PATTERSON. *Canadian M. Ass. J.*, 1935, 31, 111.

Operable cancers in malignant disease. T. H. WATKINS. *Indian M. Gaz.*, 1935, 70, 131.

Modern views on the cancer problem. J. P. LACROIX. *Monatsschr. f. Chir.*, 1935, 1, 317.

The use of diaphanometric of the urine in the diagnosis of cancer. C. NORD. *P. France med.*, 1935, 1, 111.

The diagnosis and treatment of cancer of the skin lesions of the skin. H. J. FARRAR. *Verhandl. M. J.*, 1935, 34, 111.

Some serum investigations of cancer. C. E. JACOBSON. *Scand.*, 1935, 84, 111.

An attempt to inhibit the development of the carcinoma in mice. J. R. DUNN. *Cancer Res.*, 1935, 5, 354.

Where are we standing in the treatment of cancer? Sections on the most successful methods of treatment. A. HAYEN. *Deutsche med. Wchnschr.*, 1935, 2, 111. [243]

The cancer problem as related to the general practitioner. O. B. RESS. *South M. & S.*, 1935, 1, 111.

The medical treatment of cancer. A. TUNER. *Erkrank. Dissertation*.

The role of the radiologist in the cancer problem. F. M. HODGINS. *South M. & S.*, 1935, 1, 111.

Radiosensitivity of adenocarcinoma of the stomach. MONTAGNANO. *Arch. di radiol. e chir.*, 1935, 1, 111.

The role of the surgical pathologist in the cancer problem. L. C. TOWN. *South M. & S.*, 1935, 1, 111.

End-results in the surgical treatment of cancer. J. J. SMITH. *Wisconsin M. J.*, 1935, 1, 111.

Tumors and sarcoma. J. J. M. SMITH. *Lancet*, 1935, 253, 800.

Supravital function and malignant tumors. V. GALT and indirect action of the preparations of supravital ether and methyl on the growth of culture systems. VI.

The effect of nutritive elements on the growth of malignant sarcoma in the abnormal metabolism and to structural dysfunction. T. TAJIMA. *Jap. J. Obst. & Gynec.*, 1935, 18, 130.

Eosinophilia of the blood in cases of malignant tumor. A case of peripheral reticulocytosis with eosinophilia of the blood and of the tumor. J. PETER. *M. Leiden*, 1935, 1, 111.

Liposarcoma with metastases. The abdominal sarcoma with ovarian metastases. G. DUBOIS and A. BASSI. *Gynecologie*, 1935, 34, 111. [183]

The effect of colloidal heavy metals on the growth of transplanted tumors and their radiosensitivity. I. The effect of colloidal bismuth and lead on the growth of rabbit sarcoma. II. The effect of colloidal bismuth and lead on the tissue resorption and growth of rabbit sarcoma. III. Spectroscopic analysis of the digest of colloidal bismuth and lead in rabbit sarcoma. T. KIMURA. *Jap. J. Obst. & Gynec.*, 1935, 18, 131.

Surgical shock. E. ANDRADA. *Northwest Med.*, 1935, 34, 122.

Observations on surgical anemia. H. L. ANDRADA. *Brit. M. J.*, 1935, 1, 642.

Inflammation related to surgery. V. MANTON. *Lancet*, 1935, 225, 681.

General Bacterial, Protozoan, and Parasitic Infections

Sepsis and the skin. J. T. INGRAM. *Lancet*, 1935, 253, 851.

Septicemia. C. E. LARSEN. *Brit. M. J.*, 1935, 1, 777.

Staphylococcal septicemia with diffuse gangrene of the skin of the extremities. P. RANNEY, M. D'ARCY, and

M. COXLE. Bull et mém. Soc. méd. d. hôp. de Par. 1935 51: 436

The propagation and therapy of hydatidosis in Sakhalin. K. A. MURKOVSKI. Vestnik khir. 1934 36: 20

Ductless Glands

Insulogenic stimulation of sexual development. C. A. WILLIAMS and R. L. WILLIAMS. J. Am. M. Ass. 1935 104: 1208

The concept of hyperfunction and hypofunction in endocrinology. C. MARRAS. Med. Libera 1935 19: 20

The concentration of gonad stimulating hormones in the blood serum and of estrin in the urine throughout pregnancy in the mare. H. H. COLE and F. J. SACHS. Endocrinology 1935 19: 190

An experiment to produce lactation in castrated women. A. L. WERNER. Endocrinology 1935 19: 144

The growth hormone of the anterior pituitary. H. M. EVANS. J. Am. M. Ass. 1935 104: 1232

Anterior pituitary dwarfism: further report of cases treated with the growth hormone. H. H. TURNER. South M. J. 1935 28: 309

A case of pituitary infantilism treated with commercial anterior pituitary preparations. C. B. DORR. Endocrinology 1935 19: 209

Concerning the anterior pituitary gonadal interrelations. W. O. NELSON. Endocrinology 1935 19: 187

Changes in the anterior hypophysis of the male albino rat after castration and experimental cryptorchidism. F. T. HILSON and J. M. WOLFE. Endocrinology 1935 19: 160

Anatomical insufficiency of the parathyroid glands and symptoms of spasmodic tetany in cases of thymoma. I. A. KETCHUMSKO and R. M. MALINCH. Acta med. Scand. 1935 85: 89

The testis hormone. C. R. MOORE. J. Am. M. Ass. 1935 104: 1435

Endocrine surgery. Rax-egna interna: di clin. e terap. 1935 16: 181

The influence of hysterectomy on endocrine balance. R. MARX. Am. J. Surg. 1935 29: 117

Surgical Pathology and Diagnosis

Serum diagnosis of Witebsky-Klingenstein and Kohn in surgical tuberculosis. T. MALLOY. Clin. chir. 1935 11: 184

Histological effects of intravenous sclerosing solution on subcutaneous tissues. H. R. MINOWSKY and A. OHSNER. Arch. Surg. 1935 30: 573

Instruments for taking biopsy specimens with a description of a new model. K. LINDSTROM. Acta radiol. 1935 16: 293

Experimental Surgery

Experimental pulmonary embolism associated with venoclisis. M. J. PERLOW. Arch. Surg. 1935 30: 683

Hospitals, Medical Education and History

The progress of surgery during the last fifty years. C. T. VAUGHAN. Virginia M. Month. 1935 61: 690

SEPTEMBER, 1935

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVEL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Index of Abstracts of Current Literature	iii-vi
II. Authors of Articles Abstracted	viii
III. Collective Review	209-222
IV. Abstracts of Current Literature	223-289
V. Bibliography of Current Literature	290-312

Editorial Communications Should Be Sent to Allen B. Kanavel, Editor, 54 East Erie St., Chicago
Editorial and Business Offices: 54 East Erie St., Chicago, Illinois, U. S. A.
In Great Britain • 8 Henrietta St., Covent Garden, London, W. C. 2.

CONTENTS—SEPTEMBER, 1935

COLLECTIVE REVIEW

DETACHMENT OF THE RETINA A REVIEW OF THE 1933-34 LITERATURE <i>William A. Mann, Jr., B S., M D., Chicago</i>	200
--	-----

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

Head	
MARTIN, R. E., and PHILLIPS, O. H. Cancer of the Cheek (Buccal Mucosa) A Study of Ninety-Nine Cases, with the Results of Treatment at the End of Five Years	223
LEITHAUSER, D. J., and CANTOR, M. O. Ludwig's Solution in Acute Secondary Parotitis	224
PORTMANN, U. V. The Treatment of Salivary Fistula by Irradiation	224
GESCHICKTER, C. I. Tumors of the Jaws	225

Eye	
LAMB, H. D. The Pathogenesis of Some Intra-Ocular Osseous Tissue True Metaplasia in the Eye	226
LAGRANGE, H. The Pathogenic Problem of So Called Critical Allergic Conjunctivitis	226
LAST, M. A. A Mixed Tumor of the Orbit of the Salivary Gland Type Successful Removal with Preservation of the Eyeball	226
BIFLSCHOWSKI, A. Lectures on Motor Anomalies of the Eyes IV Functional Neuroses, Etiology Prognosis, and Treatment of Ocular Paralysis	227
KRONFELD, P. C. The Histological Appearance of Recent Retinal Tears	228
BAER, B. T., Jr., and SHIPMAN, J. S. Retinal Detachment	229
VÁZQUEZ-BARRILE, A. The Surgical Treatment of Detachment of the Retina	229
LAUBER, H. The Formation of Papilledema	229

Ear	
COSTEN, J. B. A Group of Symptoms Frequently Involved in General Diagnosis, Typical of Sinus and Ear Disease and of Mandibular Joint Pathology	230

Mouth	
BRUNN, W. Varices of the Tongue	231
KORFF, A. Primary Tuberculosis of the Tongue	231

Pharynx	
KULLY, B. M. Cysts and Retention Abscesses of the Nasopharynx A Report of Eighty-Eight Cases	231

Neck	
BOROV, J. The Treatment of Hyperthyroidism by Roentgen Irradiation of the Pituitary Gland	232
FAVIER, C. H., and JOHNSON, J. End-Results of Thyroid Surgery	232
HIRSCH, C. Tuberculosis of the Larynx	232

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings, Cranial Nerves	
TOURNIER. Neurosurgical Remarks Regarding the Treatment of Injuries of the Skull and Their Late Sequela	235
WANKEL. The Treatment of Open Skull Injuries and Their Results	235
RICHARDT. Concussion and Contusion of the Brain	235
GLASSER, M. A., and SHAPIRO, I. P. Epilepsy Secondary to Head Injury	236
RACHIGO, H. R. The Thalamic Syndrome	237
LEE, A. A Contribution to the Study of Intracranial Tumors of Mesenchymatous Origin, with the Report of Two Cases of Fibroblastoma of the Cerebral Hemispheres in Children Under Five Years of Age	237
WISNOROW, S. M. The Trigemino-cervical Reflex	237
LOPTELEA, P. Anastomosis of the Buccal and Facial Nerves	237

Spinal Cord and Its Coverings	
JIZITSKY, A. The Surgical Treatment of Syringomyelia, Its Critical Evaluation According to the Immediate and Late Results	238
FAY, T. Spinal Cord Tumors	238
BLACK, W. C., and LARLEY, H. K. A Blood-Vessel Tumor of the Spinal Cord in a Boy Aged Nine Years, with Special Reference to a New Diagnostic Syndrome	239
NAEZZIGER, H. C., and JONES, O. W., Jr. Dermoid Tumors of the Spinal Cord A Report of Four Cases, with Observations on a Clinical Test for Differentiation of the Source of Radicular Pains	239

Sympathetic Nerves	
HARTUNG, A., and RUBERT, S. R. Roentgen Aspects of Sympathetic Neuroblastoma, with the Report of Two Cases	240

- ROCKERS L. The Treatment of Spasmodic Dysphagia by Sympathetic Denervation 240
- CALZOLARI T. Studies of the Capillaries of the Cortex of the Kidney. The Behavior of the Capillaries of the Cortical Zone After Denervation Sympathectomy and Decapsulation 258
- LERICHE R. FONTAINE R. and MAITRE R. The Late Results of the Treatment of Ulcers of the Leg by Operations on the Sympathetic Nerve Combined with Skin Grafting as Shown by Fifty Two Cases 287

SURGERY OF THE THORAX

Chest Wall and Breast

- McGEEHE J. I. and SCHEISSER H. C. Tuberculosis of the Breast 241
- TODD A. T. SCOTT S. G. COKE H. FINZI N. S. and Other. Discussion on the Prevention and Treatment of Metastases in Carcinoma Mammæ 241

Trachea, Lungs, and Pleura

- ARNFSEN A. J. A. Further Experiences with the Puncture Treatment of Pleural Empyema 242
- IADES M. F. Massive Collapse of the Lung Following Childbirth. A Report of Two Cases 257
- ANDRKA S. and JUNET R. Experimental Pulmonary roentgenography and Its Stages. (1) The Alveolar Stage—Pulmo Alveolography—and (2) the Lymphatic Stage—Pulmolymphography 295

Esophagus and Mediastinum

- McGIBSON J. The Esophageal Lesions Encountered in Cases of Dysphagia with Anemia 242
- NISSEN R. The Treatment of Functional and Organic Narrowings of the Esophagus and Cardia 242
- FREYER J. and LADISLAUS F. The Possibilities of Curing Severe Lesions of the Esophagus 243
- ZENO A. and SANTANELLI L. Simple Ulcer of the Esophagus 243
- MAGALDI B. The Surgical Anatomy of the Organs of the Anterior Mediastinum 243

Miscellaneous

- FRITSCHE C. B. Extrapulmonary Tumors of the Thorax 244

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- BOMBI G. Biliary Peritonitis Without Apparent Perforation of the Biliary Tract 245

Gastro-Intestinal Tract

- PAGE C. T. and McNEER G. Sarcoma of the Stomach 245
- COSTANTINI A. and BALLARIN C. Research on Intestinal Peristalsis. The Action of Various Salts Injected Intravenously 24
- NELL W. Acute and Chronic Intrapapillary Duodenal Ileus 246
- MINUCCI DEL ROSSO L. A Study of the Pathological Anatomy and Pathogenesis of Duodenal Diverticula 246

- CARDNER C. E. JR. and HART D. Enterogenous Cysts of the Duodenum 247
- PREY D. FOSTER J. M. JR. and DAVIS H. Primary Sarcoma of the Duodenum. Report of a Case 24
- PICER H. Circumscribed Phlegmons of the Cecum and Their Treatment 248
- TRIGESDALE P. F. Retroposition of the Transverse Colon. A Report of Two Cases 248
- HAVLASKE I. Intestinal Obstruction and Pregnancy 24
- RAINEY W. and COLE W. H. Lymphogranuloma Inguinale. Its Relation to Structure of the Rectum 264

Liver, Gall Bladder, Pancreas and Spleen

- TRINEFF S. Hepatic Function in Relation to Operation and Anesthesia in Surgical Affections in General and Diseases and Drainage of the Biliary Tract 248
- OTTENBERG R. Painless Jaundice 249
- BOYDEN F. A. The Ithygian Cap in Cholecystography. A Congenital Anomaly of the Gall Bladder 249
- ERDMANN J. F. Malignancy of the Gall Bladder 250
- PROTOSCHWIG G. The Indications for and the Results of External Cholecoduodenostomy 250
- GASPARINI A. Latent Adenocarcinoma of the Body of the Pancreas 250

Miscellaneous

- POZZI A. The Coin Test in Pneumoperitoneum 251

GYNECOLOGY

Uterus

- GUTHMANN H. and WISERT W. Operation of Irradiation Treatment of Myoma? A Report on Clinic Cases Treated in the Period from 1920 to 1930 252

External Genitalia

- KUFFEL Z. A Case of Melanoblastoma of the Vulva 252

Miscellaneous

- ALLEN E. B. Menstrual Dysfunction in Disorders of the Personality. Their Nature and Treatment 252
- WEITZEL W. Non Venereal Infectious Processes in the Female Genital Organs 253
- BIRKMAN W. and HOROWITZ E. A. The Treatment of Menorrhagia in the Female by Means of Systemic and Additional Pelvic Heating 254

OBSTETRICS

Pregnancy and Its Complications

- LYNCH H. The Early Diagnosis of Extra Uterine Pregnancy 255
- HAVLASKE I. Intestinal Obstruction and Pregnancy 255
- WICKRAMASEKERA G. A. W. The Grave Risks of Hookworm Disease as a Complication of Pregnancy 255

- BLANC, H., and GUÉRIN, P. Considerations on a Case of Bilateral Hydronephrosis in a Pregnant Woman 259
- GIULIANI, G. M. Hematuria from Cystic Ureteritis in Pregnancy 261

Labor and Its Complications

- GOUSSAKOFF, L. Considerations on Pubiotomy 256

Puerperium and Its Complications

- COLEBROOK, L. The Treatment of Puerperal Fever by Antistreptococcal Serum 256
- FORD, R. K. Autogenous Infection in Relation to Puerperal Morbidity 256
- MOON, A. A., and GILBERT, B. A Study of Acute Mastitis of the Puerperium 256
- LADES, M. F. Massive Collapse of the Lung Following Childbirth. A Report of Two Cases 257

Miscellaneous

- CLEMMER, J. J., and HANSMANN, G. H. The Origin of Chorionepitheliomas and of Emboli from Trophoblastic Fragments Enclosed in the Myometrium 257

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- BULL, P. The Treatment and Prognosis of Hypernephroma 258
- SACCO, E. The Value of Meatoscopy in the Diagnosis of Pyelo-Ureteral Conditions 258
- CALZOLARI, T. Studies of the Capillaries of the Cortex of the Kidney. The Behavior of the Capillaries of the Cortical Zone After Enervation, Sympathectomy, and Decapsulation 258
- CALZOLARI, T. Studies of the Capillaries of the Cortex of the Kidney. The Behavior of the Capillaries of the Cortical Zone in Hypertrophy of the Kidney 259
- GOVERNEUR, R., and CACHIN, C. The Operative Indications in Renal Ptosis 259
- BLANC, H., and GUÉRIN, P. Considerations on a Case of Bilateral Hydronephrosis in a Pregnant Woman 259
- BRANDIS, VON. Cicatricial Nephralgia 260
- BOTHE, A. E. Tissue Changes in Mixed Tumors of the Kidney After Roentgen Therapy 260
- GIULIANI, G. M. Hematuria from Cystic Ureteritis in Pregnancy 261

Bladder, Urethra, and Penis

- HUTCHINSON, R. G. Radium Treatment of Epithelioma of the Penis 285

Genital Organs

- MOORE, R. A. The Morphology of the Small Prostatic Carcinoma 261
- YOUNG, H. H. Radical Cure of Carcinoma of the Prostate 261
- ORFENDORFER. The Specific Malignant Testicular Tumor "Seminoma" 262

- SYMEONIDIS, A. Chorionepithelioma in the Male and Its Hormonal Effect in the Form of "Pregnancy Changes" 262

Miscellaneous

- TAROZZI, G., and GARDINI, F. Anatomical Studies of the Hypogastric Ganglial Apparatus of the Small Pelvis in the Infant and the Embryo, with Special Consideration of Its Relation to the Genito-Urinary Tract 263
- HRANTSCHAK, T. Experimental Researches on the Origin of Urinary Calculi 263
- RAINEY, W., and COLL, W. H. Lymphogranuloma Inguinale. Its Relation to Stricture of the Rectum 264

SURGERY OF THE BONES, JOINTS, MUSCLES TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc

- SMITH, L. A. Xanthomatosis Involving Bone (Lipoid Histiocytosis). Case Reports and Roentgen Findings 265
- SHELLING, D. H., and VOSHELL, A. F. Xanthomatosis Generalisata Ossium. Report of a Case Simulating Osteitis Fibrosa Cystica 265
- SOMMER, R. Bone Injuries of the Elbow Joint Due to Working with Compressed-Air Drills 266
- PEASE, C. N. Injuries to the Vertebrae and Intervertebral Disks Following Lumbar Puncture 267
- SUNDT, H. Vertebra Plana, Calvé. A Review and the Report of Two Cases 267
- MOUCHET, A. Sacrolithesis 267
- SHORE, L. R. Polyspondylitis Marginalis Osteophytica 268
- SHORE, L. R. On Osteo-Arthritis in the Dorsal Intervertebral Joints 268
- MILCH, H. Injuries to the Crucial Ligaments 269
- MEYER, M., SARTORY, A. R., and MEYER, J. Osseous Blastomycosis Simulating Tarsal Scaphoiditis of Young Children 269
- SERCK-HANSEN, T. Cervical Ribs Combined with Other Anomalies of the Vertebral Column as a Family Condition 287

Surgery of the Bones, Joints, Muscles, Tendons, Etc.

- MARTIN, P. A Contribution on the Treatment of Osteomyelitis 269
- ZUR VERTH, M. Amputation of the Lower Extremity and Artificial Limbs 270
- MOLOTKOFF, A. G. The Source of Pain in Amputation Stumps in Relation to the Rational Treatment 272
- ZADEA, I. Transverse-Wedge Arthrodesis for the Relief of Pain in Rigid Flat-Foot 273

Fractures and Dislocations

- SCHNEK, F. G. The Conservative Treatment of Total Dislocation of the Lunate Bone 273
- STIMSON, B. B., and SWENSON, P. C. Unilateral Subluxations of the Cervical Vertebra Without Associated Fracture 273

- LOMERANZ M M and SLOANE M F Shipping of the Proximal Femoral Epiphysis The Therapeutic Results in 101 Cases 274
- BRUECKE H VON Fractures of the Femur 275
- ANDERSEN K The Treatment of Fractures of the Neck of the Femur 276
- ROEHLER L Operative Treatment of Fractures of the Neck of the Femur by the Extra Articular Method of Sven Johansson 276
- MILLANTICH N and SIMOVITCH M The Use as a Provisional Support for a Patellar Suture with Horsehair of Continuous Traction by a Trans-quadriceps Wire in a Case of Refracture of the Patella Through the Bed of a Wire Used for Anterior Hemierclage Consolidation and Excellent Functional Result 277
- General and Diseases and Drainage of the Biliary Tract 278
- MEYENBURG H VON Fatalities in Percutaneous Anesthesia 274

PHYSICO-CHEMICAL METHODS IN SURGERY

SURGERY OF BLOOD AND LYMPH SYSTEMS

Blood Vessels

- CALZOLARI T Studies of the Capillaries of the Cortex of the Kidney The Behavior of the Capillaries of the Cortical Zone After Denervation Sympathectomy and Decapsulation 253
- CALZOLARI T Studies of the Capillaries of the Cortex of the Kidney The Behavior of the Capillaries of the Cortical Zone in Hypertrophy of the Kidney 259
- BARNARD W C Tuberculous Arteritis 278
- WEYER G K and PERRY I H Periarthritis Nodosa Report of a Case with Fatal Renal Hemorrhage 278
- TELFORD E D and STOPFORD J S B Thrombo-Angiitis Obliterans 278
- DONATI M Arterial Resection Combined with Unilateral Supraaorticectomy in the Treatment of Lendarteritis Obliterans of the Extremities 279
- ROENTGENOLOGY
- FORTMANN U V The Treatment of Salivary Fistula by Irradiation 274
- BORAK J The Treatment of Hyperthyroidism by Roentgen Irradiation of the Isthmotic Gland 277
- HARTUNG A and ROBERT S R Roentgen Aspects of Sympathetic Neuroblastoma with the Report of Two Cases 240
- BOYDEN E A The Phrygian Cap in Cholecystography A Congenital Anomaly of the Gall Bladder 249
- BORNE A E Tissue Changes in Mixed Tumors of the Kidney After Roentgen Therapy 260
- SMITH L A Xanthomatosis Involving Bone (Lipoid Histiocytosis) Case Reports and Roentgen Findings 262
- KADENNA S and JINET J Experimental Pulmonography and Its Stages (1) The Alveolar Stage—ulmo-lymphography—and (2) the Lymphatic Stage—ulmo-lymphography 285
- MAYNARD W V and ROBERTS J F The Quality of High Voltage Irradiations 275

Radium

- GUTHMANN H and ATZERT W Operation of Irradiation Treatment of Myoma? A Report on Clinic Cases Treated in the Period from 1920 to 1930 273
- HILTONSON R G Radium Treatment of Epithelioma of the Penis 283
- LYNCH M C The Pathology of Radium Burns 296

SURGICAL TECHNIQUE

Operative Surgery and Technique, Postoperative Treatment

- LOWENTHAL G Tracheobronchial Aspiration of Bucopharyngeal Secretion During Ether Anesthesia Immediate Postoperative Bronchoscopic Study of Twenty One Patients 281
- KLEPPERS H A Case of Postoperative Progressive Skin Necrosis 281
- Antiseptic Surgery Treatment of Wounds and Infections
- JAROS M Hand Injuries and Insurance 282
- FEIL A Symptoms in Workmen Who Use Compressed Air Tools 282
- MCCLEBE K D and ALLEN C I The Davidson Tannic Acid Treatment of Burns 283
- ELBER F Recent Findings of Research on Actinomycosis 283
- DONALD C The Conservative Attitude in the Treatment of Acute Pyogenic Infections 285
- Anesthesia
- TENNEY S Hepatic Function in Relation to Operation and Anesthesia in Surgical Affections in
- Clinical Entities—General Physiological Conditions
- PANVELLA F The Influence of Adrenalin on Shock Resulting from the Removal of a Hemostatic Tourniquet 281
- SEVER HANSEN T Cervical Ribs Combined with Other Anomalies of the Vertebral Column as a Family Condition 287
- LEFRICHT R, LONVAIN R and MAIRY R The Late Results of the Treatment of Ulcers of the Leg by Operations on the Sympathetic Nerve Combined with Skin Grafting as Shown by Fifty Two Cases 287
- BALSER W A Contribution to the Pathogenesis of Multiple Symmetrical Lipomatosis—Madelung's Disease 288
- HARWITZ H F Lipogranuloma a Foreign Body Inflammation Often Suggesting a Tumor 288
- STOLT A P Tumors of the Neuro-myotendinous Cord 289
- MENKIN A Inflammation Related to Surgery 289

BIBLIOGRAPHY

Surgery of the Head and Neck		Genito-Urinary Surgery	
Head	290	Adrenal, Kidney, and Ureter.	303
Eye	290	Bladder, Urethra, and Penis	304
Ear	291	Genital Organs	304
Nose and Sinuses	291	Miscellaneous	305
Mouth	291		
Pharynx	291	Surgery of the Bones, Joints, Muscles, Tendons	
Neck	291	Conditions of the Bones, Joints, Muscles, Tendons, Etc	305
		Surgery of the Bones, Joints, Muscles, Tendons, Etc.	306
Surgery of the Nervous System		Fractures and Dislocations	306
Brain and Its Coverings; Cranial Nerves	292	Orthopedics in General	307
Spinal Cord and Its Coverings	293		
Sympathetic Nerves	293	Surgery of the Blood and Lymph Systems	
Miscellaneous	293	Blood Vessels	307
		Blood; Transfusion.	308
Surgery of the Thorax		Lymph Glands and Lymphatic Vessels	308
Chest Wall and Breast	293		
Trachea, Lungs, and Pleura	293	Surgical Technique	
Heart and Pericardium	294	Operative Surgery and Technique, Postoperative Treatment	308
Esophagus and Mediastinum	294	Antiseptic Surgery, Treatment of Wounds and Infections	300
Miscellaneous	294	Anæsthesia	310
		Surgical Instruments and Apparatus	310
Surgery of the Abdomen		Physicochemical Methods in Surgery	
Abdominal Wall and Peritoneum	294	Roentgenology	310
Gastro-Intestinal Tract	295	Radium	310
Liver, Gall Bladder, Pancreas, and Spleen	297	Miscellaneous	311
Miscellaneous	298		
Gynecology		Miscellaneous	
Uterus	299	Clinical Entities—General Physiological Conditions	311
Adnexal and Peritoneal Conditions	299	General Bacterial, Protozoan, and Parasitic Infections	312
External Genitalia	300	Ductless Glands	312
Miscellaneous	300	Surgical Pathology and Diagnosis	312
		Hospitals, Medical Education and History	312
Obstetrics			
Pregnancy and Its Complications	301		
Labor and Its Complications	302		
Puerperium and Its Complications	302		
Newborn	303		
Miscellaneous	303		

AUTHORS OF ARTICLES ABSTRACTED

- Allen, C. I. 83
 Allen, F. B. 252
 Andersen, K. 26
 Arnesen, A. J. 242
 Atzert, W. 252
 Baer, B. F. Jr. 229
 Ballarín, C. 245
 Barnard, W. G. 28
 Bielschowsky, A. 227
 Bierman, W. 254
 Black, W. C. 239
 Blanc, H. 259
 Boehler, L. 26
 Bombi, G. 245
 Borak, J. 232
 Bothe, A. I. 260
 Boyden, F. A. 240
 Brandt, von 60
 Brucke, H. von 275
 Bruhn, W. 231
 Brunner, W. 288
 Bull, P. 249
 Cachim, C. 259
 Calzolari, T. S. 259
 Cantor, M. O. 4
 Clemmer, J. J. 257
 Coke, H. 241
 Cole, W. H. 264
 Colebrook, L. 256
 Costantini, A. 245
 Costen, J. B. 230
 Dennis, W. 247
 Donald, C. 283
 Donati, M. 279
 Fades, M. F. 25
 Erdmann, J. F. 200
 Fymer, J. 256
 Faber, H. 39
 Fay, T. 238
 Feil, A. 32
 Finzi, N. S. 241
 Fontaine, J. 247
 Ford, R. K. 256
 Foster, J. M. Jr. 247
 Frazer, C. H. 232
 Gardini, F. 203
 Gardner, C. F. Jr. 247
 Garbini, A. 250
 Geschickter, C. F. 225
 Gilbert, B. 256
 Giuliano, G. M. 261
 Glaser, M. A. 256
 Goussard, L. 26
 Gouverneur, R. 259
 Guerin, P. 259
 Guthmann, H. 252
 Han, M. C. H. 25
 Harbitz, H. F. 238
 Hart, D. 47
 Hartung, A. 240
 Haslbeck, I. 255
 Hirsch, C. 232
 Horowitz, E. A. 254
 Hrynyszczak, T. 263
 Hutchison, R. G. 235
 Jaroš, M. 282
 Johnson, J. 252
 Jones, O. W. Jr. 239
 Jurat, J. 9
 Juzefewski, A. 238
 Kadanka, S. 285
 Korff, A. 231
 Kronfeld, I. C. 228
 Kueppers, H. 281
 Kully, B. M. 231
 Ladi, I. 243
 Lagrange, H. 229
 Lamb, H. D. 26
 Last, M. A. 226
 Leiber, H. 249
 Leithäuser, D. J. 224
 Leinhe, R. 37
 Lev, A. 237
 Lowenthal, G. 281
 Lynch, M. G. 256
 Magaldi, B. 243
 Maistre, R. 257
 Mann, W. A. Jr. 209
 Martin, H. E. 223
 Martin, P. 269
 Mayne, D. W. V. 283
 McClure, R. D. 283
 McGehee, J. L. 247
 McCibbon, J. 242
 McNeer, C. 245
 Menkin, V. 288
 Meyenburg, H. von 284
 Meyer, J. 69
 Meyer, M. 269
 Milch, H. 269
 Mikanich, N. 217
 Minucci, Del Rosso, L. 246
 Mohr, A. G. 272
 Moon, A. A. 26
 Moore, R. A. 261
 Mouchet, A. 61
 Naffziger, H. C. 239
 Nell, W. 246
 Neuber, E. 283
 Nissen, R. 243
 Obermüller, G. 2
 Ottenberg, R. 29
 Pack, G. T. 245
 Pannella, P. 237
 Pease, C. N. 267
 Peirce, C. B. 244
 Perry, I. H. 218
 Pfeiffer, O. H. 223
 Pich, H. 248
 Pomeroy, M. M. 24
 Portmann, U. V. 224
 Pototschnig, G. 20
 Pozzi, A. 251
 Frey, D. 247
 Rainey, W. 264
 Renha, d. 33
 Roberts, J. F. 285
 Rogers, L. 240
 Pubert, S. R. 247
 Ruffel, Z. 232
 Rugiero, H. P. 237
 Sacco, E. 258
 Santanello, L. 243
 Sartory, A. K. 269
 Schin, H. C. 241
 Schnek, I. C. 273
 Scott, S. G. 241
 Serik, Hansen, T. 257
 Shier, F. P. 236
 Shelling, D. H. 265
 Shyman, J. S. 219
 Shore, L. R. 268
 Simovitch, M. 277
 Sloane, M. J. 274
 Smith, L. A. 265
 Sommer, R. 266
 Steffen, B. B. 13
 Stopford, J. S. B. 278
 Stout, A. J. 288
 Sun, H. 267
 Swenson, P. C. 213
 Symmonds, A. 262
 Tarozzi, G. 263
 Tello, E. D. 278
 Telford, S. 248
 Tolly, A. T. 241
 Toennies, J. 33
 Tortella, I. 237
 Treer, J. 243
 Truesdale, E. F. 248
 Valzquez, Barriere, A. 229
 Voss, H. A. F. 265
 Wanke, J. 235
 Weibel, W. 253
 Weingrow, S. M. 23
 Wever, C. K. 278
 Wicramasuriya, G. A. W. 255
 Young, H. H. 261
 Zidek, I. 23
 Zeno, A. 243
 Zur Verth, M. 270

INTERNATIONAL ABSTRACT OF SURGERY

SEPTEMBER, 1935

COLLECTIVE REVIEW

DETACHMENT OF THE RETINA A REVIEW OF THE 1933-34 LITERATURE

WILLIAM A MANN, JR., B S, M D

Assistant Professor of Ophthalmology, Northwestern University Medical School, Chicago

THE subject of retinal detachment and its operative treatment has continued to hold the center of interest in the ophthalmological literature of the past two years and some definite progress relating to the etiology, pathology, and successful operative treatment of the condition has been recorded. Innumerable papers on the subject have been read and published, and an important symposium dealing with its various phases occupied the attention of the International Ophthalmological Congress in 1933. Of this voluminous literature, an attempt will be made to give a résumé of only the more significant contributions

HISTORY

According to Vogt (101), the first to see a retinal tear in a case of detachment was Coccus (13) in 1853. In 1858, von Graefe (35) observed such a tear and attributed it to the healing process. De Wecker (21), in 1870, was the first to consider the retinal tear as the cause of the detachment, a view popularized by Leber (58) in 1882.

Ignipuncture was used in the treatment of the condition as early as 1881 by Martin (65), de Wecker (22), and de Luca (19). Schoeler (81) was the first to suggest the site of the tear as the logical place for the beginning of the detachment and the site for operative interference (1889). Deutschmann (20), in 1896, was the first to use ignipuncture at the site of the tear, but employed it in only 1 case. The first to use the method systematically and successfully was Galezowski (26) who in 1902-03 aspirated the subretinal fluid and

used the galvanocautery upon the ruptured portion of the retina and the underlying choroid, obtaining good results especially in the more recent cases. However, in spite of this pioneer work all treatment of retinal detachments (and there were countless methods) was generally regarded as hopeless, and it remained for Gonin (29) to make the most significant contribution to ophthalmology in the last fifteen years by devising a means of treating cases of retinal detachment successfully and popularizing the method which was subsequently to be adopted, adapted, and modified by ophthalmic surgeons throughout the world. Gonin's first operation was performed in 1916 (9), but it was not until some years later—after Gonin had reported at the International Congress in 1929 a large series of cases in which it had been used—that the method began to be widely employed by others.

Following the principles of Gonin but attempting to improve upon the method, various workers have devised other procedures for closure of the hole and cure of the detachment. Guist (37), in 1931, suggested the chemical method in which potassium hydroxide is introduced through trephine openings in the sclera. This procedure was modified by Lindner (59) who made fewer trephine openings and undermined the choroid. Weve (108), Larsson (57), and Šafář (78) at about the same time began the use of diathermy. Modifications and newer developments in these methods with the present trend toward treatment by electrocoagulation will be considered in detail.

ETIOLOGY AND PATHOGENESIS

In 425 cases of retinal detachment studied at the Royal London Ophthalmic Hospital by Shapland (88) the ages of the patients varied from eight to eighty five years. The average age was forty two and eight tenths years. Sixty one per cent of the patients were males and 61.3 per cent were myopic. In 71.9 per cent of the latter the myopia was over 10 diopters. There was a history of trauma in 43.9 per cent of the emmetropic eyes but in only 15.5 per cent of the myopic eyes with detachment. In a series of 150 cases reported by Dunnington and Macne (23) the average age was thirty nine and eight tenths year and 64 per cent of the patients were males. Trauma was a definite factor in 30 per cent and a probable factor in 41.3 per cent of the cases. Trauma as a factor in the production of detachment may have a medical significance as brought out by Jeandelze and Baudot (45) whose opinion was accepted by the courts in 3 cases. The lapse of time between the trauma and the detachment is extremely variable.

The exact production of the retinal detachment (or, more properly, retinal separation since the nervous layers are separated by the subretinal fluid from the pigment epithelium of the retina which remains adherent to the choroid) is still undetermined although most ophthalmologists adhere to Gonin's elaboration of Leber's theory. The mechanism of detachments resulting from such causes as choroiditis, choroidal tumor, retinitis proliferans and albuminuric retinitis is fairly clear, but with regard to the mechanism of the so-called idiopathic detachments which are frequently (but not always) found in association with such factors as high myopia and trauma there are in general two schools of thought. Sourdille believes that the pathological process lies chiefly in the choriocapillaris of the choroid being a vascular disturbance causing separation of the adjacent retina with the accumulation of fluid in the artificially created space. According to this theory, tears or holes in the retina are the result not the cause of the detachment. However the majority of ophthalmologists adhere to the theory of Gonin which is based upon Leber's conception of the retinal tear as the cause of the detachment. According to Gonin there is first a partial liquefaction of the vitreous with retraction. Sharp, abrupt movements of the eye may result in a sudden pull on the thinned friable retina which has become adherent on the one hand to the vitreous by strands attached to the internal limiting membrane of the retina and on the other hand, to the choroid as the result of a previous

inflammatory process. This pull causes a tear in the retina. Through the hole then passes the liquid vitreous, lifting the retina away from the choroid and producing the clinical entity of retinal detachment. According to this conception detachment will not occur unless a tear has been produced in the manner described and as long as the tear is present the detachment remains. Cystic degeneration and other changes in the retina may predispose to the production of the tear. Landrer (62) states that detachment never occurs when the vitreous is normal. He believes that shrinking of the vitreous occurs after the tear but is not the cause of the detachment.

Lindner (63) has attempted to prove Leber's theory of the pathogenesis of detachment by mechanical means. He has constructed a model retina using a round glass flask and coating its interior with a layer of celloid containing enough aluminum powder to render it more visible and somewhat adherent. If after the production of an artificial hole with a protruding flap, the flask is rotated, a detachment soon occurs. When the rotation is stopped the detachment tends to flatten out. In the eye contraction of the vitreous producing a buckling of the retina prevents return to the normal on immobilization. Another model demonstrates the formation of the tear. A mixture of gelatin and glycerin is placed in a flask. A jerking motion around the center results in the formation of tears of various shapes. These models are used by Lindner to demonstrate to patients the production of the tear and detachment.

Velfagen (99) reports a case in which, after two operations performed unsuccessfully in the absence of a demonstrable tear, a tear was found and its closure resulted in cure. He thinks that this case tends to bear out Gonin's conception.

Arruga (5) believes that in the great majority of cases of idiopathic detachment the cause lies in pathological changes in the retina itself, and that a healthy retina never becomes detached, even if it tears. These pathological changes may be induced by old age myopia and stealthy chorioretinal inflammation. The pathogenesis of the tear is mechanical being due to a blow, marked vibration or possibly violent motion of the eyeball. Once the vitreous has penetrated under the retina there is an exudation from the irritated choroid.

Bartels (8) believes that a tear is not essential for the development of detachment. He reports two cases with large recent tears in which examination revealed a stretched tight membrane representing the external leaf of the retina split lengthwise along the internuclear layer and a small

opening in the latter through which the choroid was visible. He attributes such splitting to cystic degeneration of the retina, and detachment to primary disease of the retina. Abadia (1) considers the formation of a tear and the ingress of vitreous significant only in exceptional cases.

In an attempt to refute the ideas of Gonin and Lindner as to the rôle of the tear in detachment, Kapuscinski (47) states that slit-lamp studies in aphakic eyes show that the outer layers of the vitreous (hyaloid membrane?) do not undergo the same movements as the inner parts of the vitreous; nystagmic eyes are not especially prone to detachments, and tears occur independently of detachments. He believes that if the vitreous is normal a detachment is impossible.

Sabbadini (77) investigated 130 cases for evidence of a predisposing cause. In 35 cases tuberculosis was present; in 30, syphilis, and in the remainder, arteriosclerosis, cardiorenal disease, or diabetes. Sabbadini concluded that the ocular localization leading to the detachment is a metastatic deposit. He believes that the so-called myopic changes accompanying detachment in highly myopic individuals are merely tuberculous or syphilitic foci of uveitis.

Horniker (41) found evidence of vasomotor neurosis (punctate opacities of the lens and degenerative changes in the corneal endothelium) in 17 patients with idiopathic detachment. He thinks that the functional anomalies of the capillaries may be the basis of the cystic degeneration of the retina preceding the tear formation. In the cases he studied the arterial tension was relatively low.

Gallois (27) points out the necessity of medical treatment as surgical cures are greatly dependent on elimination of the underlying cause, which may be syphilis, tuberculosis, or an endocrine disturbance affecting the choroid and retina.

PATHOLOGY

The retinal tear. Despite differences of opinion as to the causation of the detachment and the relative importance of the tear, the majority of ophthalmologists still seem to believe that exact localization of the tear and its closure, as advocated by Gonin, are essential to the success of operative intervention. The greater the care employed and the more painstaking the investigation the higher the percentage of cases in which retinal rents will be found. Gonin (31) states that many men have reported finding tears in as high as 90 per cent of their cases. He says that it is unthinkable that the tear should be the result rather than a cause of detachment. The tears are observed most frequently in recent rather than in

old detachments and may be seen even before the detachment has taken place. On the other hand, detachments due to tumors and the retinitis of pregnancy usually show no tears. As final proof of his theory Gonin cites the cure of detachment by operative sealing of the hole.

Shapland (88) reports finding one or more holes in 76.2 per cent of his large series of 425 cases. In 90.4 per cent the holes were in front of the equator and in 23.8 per cent they were multiple. There were 115 examples of round holes, 113 cases of disinsertion or anterior retinal dialysis, 105 arrow-shaped tears, 20 radial slit-like tears, and 19 irregular rents. The temporal half of the globe was the site of 79.6 per cent of the tears. Arruga (3) at first found tears in about half his cases. With greater experience he now finds them in 90 per cent. Dunnington and Macnic (23) found holes in 56 per cent of a series of 155 eyes with detachment, but had about equally good postoperative results in the cases without demonstrable tear when operation was performed by the Guist or diathermy methods.

To denote detachment of the retina at the ora serrata, sometimes called "disinsertion," Anderson (2) uses the term "anterior retinal dialysis." He believes that the detachment is usually behind, rather than at, the ora serrata. The condition occurs most frequently in the inferior temporal quadrant, probably because of greater exposure to trauma at that region together with the more frequent occurrence there of cystoid degeneration leading to the formation of rents. Young males are most subject to this type. Myopia does not seem to play a rôle.

According to von Roeth (75), retinal tears may be caused by (a) degeneration of the retina, (b) liquefaction of the vitreous, or (c) detachment of the vitreous in the form of a "vitreous ring." Detachment of the vitreous in the form of a vitreous ring was found in 9 of 19 cases. Detachments of the vitreous, but not of the retina, were found in 2 of 55 myopic eyes. Of the total number of cases of detachment, the tear was in the temporal portion of the retina in 75 per cent. This is explained by the fact that this portion receives less nourishment than the other portions because it is farther from the central arteries.

Vogt (104) reports 3 cases of retinal tear in the lower part of the retina which remained latent nine months, from three to four years, and eleven months respectively before detachment occurred. In 2 other cases with tears the lid became detached and floated freely in the vitreous without the occurrence of detachment. No cystoid changes in the lids could be observed with red-free light.

Vogt believes that in such cases operation should not be performed until detachment has taken place.

Ferrer (25) favors Sourdille's method of operating and feels that there is no advantage in wasting time looking for the retinal tear.

Localization of the tear Since Gonnin and his followers premise their theory of cure upon sealing of the tear by the production of an adhesive choroiditis, accurate localization of the rent becomes essential, particularly in the original ignipuncture method. Gonnin (32) still adheres to his original method of localization by direct ophthalmoscopy and estimation of the distance of the tear from the ora serrata, marking the meridians with India ink and using a guiding silk thread at operation, a procedure followed by Shapland (88). Many complicated localizing instruments were devised in the past. The Guist schema and localizing apparatus is advocated by McKeown (67). Barkan, Smith and Boyle (7) use the Gonnin method of localization, but place a small bit of paper in the center of the butyrlized cornea and use this point to assist in the determination of the exact meridian.

Sune (93) has prepared elaborate tables for accurate localization by using an anatomical eye with average measurements on which the limbus distances along the retinal and scleral arcs and the scleral chord are determined by mathematical calculations. In these tables he has eliminated some of the errors occurring in previous tables. Corrections for the angle alpha are calculated not only for the retina in its normal position but also for detachment in each of the four quadrants. A hand perimeter is used and the position of the tear determined with the aid of the ophthalmoscope.

Schoenberg (83) advises that the location, size and character of the tear be indicated on a diagram of the fundus. Pavin (68) localizes certain tears by a series of photographs.

Arruga (4) emphasizes the importance of perseverance in searching for the tear. He states that a strong light is essential, indirect ophthalmoscopy may be of aid, and rest in bed usually helps. Difficulty in finding the lesion may be due to small size of the tear, opacities of the media, confusion with hemorrhages, or location of the tear in retinal folds or in the anterior periphery.

The subretinal fluid Magiot (64) has attempted to settle the dispute as to the origin of the subretinal fluid by examining this fluid in a series of cases. The albumin content was found to be rather high. It was highest in long standing cases, in some of which it was greater than that of the blood serum. The amount of dextrose varied widely, relatively little being found when

the glycolytic function of the retina was preserved (possibly of prognostic importance as to the return of retinal function). The chemical composition of the subretinal fluid resembles that of an exudate, but as the subretinal fluid at times contains more albumin and sugar than the blood it is not a simple exudate. Magiot thinks that the origin of the fluid must be in the retina and not in the choroid nor in the vitreous. Jasinaki (43) also examined the subretinal fluid chemically and microscopically and concluded that it is not of an inflammatory nature.

Sondermann (89) attempts to refute Lobeck's theory that the subretinal fluid passing through the tear is absorbed by the choroid; this accounting for the low intraocular tension.

Sedan (86) believes that the prognosis after electrocoagulation is favorable if the subretinal fluid escapes under the conjunctiva with the production of an area of subconjunctival edema. He thinks that the subretinal fluid may be under increased pressure which perhaps influences the spread of the detachment.

The vitreous Caramazza (10) studied the vitreous in 18 cases before and after operation. While vitreous changes are constant, operative interference does not seem to alter the biomicroscopic picture. Illudification, microblinial degeneration, striate opacities, and fine pigmented granules were noted, but found also in the eye without detachment. The presence of fine pigmented epithelial elements seemed to be secondary to detachment.

EXPERIMENTAL DETACHMENT OF THE RETINA

In experiments on rabbits, eyes Castroviejo (12) succeeded in producing artificial retinal detachments with all the characteristic clinical findings of idiopathic detachment in human eyes. After incision of the sclera, choroid and retina 0.5 cm. of vitreous was removed with a blunt hypodermic syringe and re-injected between the sclera and choroid. At the end of four months no spontaneous cure of the detachment was observed. After tying a ligature around the optic nerve of rabbits, Weiss and Evans (107) observed the immediate occurrence of detachment of the retina with marked edema of the disc and forward extension of the retina by about 12 diopters. Dejean (18) states that it is generally not feasible to cause retinal detachment in living animals by small incisions, but that if a large incision is made and a large amount of vitreous escapes the retina becomes folded and detached as a result of the hypotony.

Attempting to produce retinal tears in the eyes of healthy rabbits by introducing a cannula and

aspirating a small piece of retina and a small amount of vitreous, Hagedoorn (39) was successful in 3 cases, but in none of these did detachment result

In experiments with diathermy carried out on the eyes of rabbits by von Szily and Machemer (95), degenerations, hemorrhages, tears, and detachments of the retina occasionally resulted. Weak galvanic currents were passed through the coats of the eye with a bipolar instrument. Correct dosage resulted in re-attachment of the retina. Currents of from 2 to 20 ma applied for from five to twenty seconds to the eyes of 40 rabbits produced no tears outside the treated area and no severe complications.

In eyes of rabbits treated by coagulation of the scleral surface, Cordero (17) found a severe reaction throughout the eye. Following perforating coagulation with only a small dose, new connective tissue was seen after from eight to ten days. Cordero therefore concluded that perforating coagulation is much safer than surface coagulation.

ANATOMICAL EXAMINATION

In the eye of a twenty-two-year-old patient with recurring detachment healed for a time with the cautery, Takamatsu (96) found on histological examination a new formation of connective tissue between the rods and cones and the pigment epithelial cells, the result of a tuberculous process. He states that the retina may be detached from the traction of such newlyformed tissue on the outer side of the retina just as a similar detachment is thought to occur from the contraction of connective tissue on the vitreous side of the retina.

Sourdille (90) describes in detail the histopathological findings in two eyes with recent detachment. These eyes showed liquefaction of the vitreous, extreme atrophy of the anterior third of the retina with multiple retinal tears, edema of the posterior two-thirds of the retina, and alterations of the choroid, partly atrophy and partly intense congestion. In Sourdille's opinion these changes indicate that the retinal lesion is the essential lesion, the choroidal lesion is a preparatory change, and the vitreous changes are secondary and accessory.

Stallard (92) reports the histological examination of the eye of a patient successfully operated on by the Larsson diathermy method who died of an extensive pulmonary thrombosis nineteen days after the operation. He found a localized uveitis with buds of granulation tissue herniating through Bruch's membrane. These contained fibroblasts, the precursors of fibrous tissue. Stallard states that chorioretinal fibrous adhesions eventually cause repair. From the specimen described he

adduces that diathermy near the ora serrata may cause cyclitis and remote effects from fibrous tissue formed in the circumferential space. Similar findings were made by Kurz (56) in two eyes studied three and a half years and three months respectively after ignipuncture. The first eye was enucleated because of progressive atrophy, and the second because of a choroidal sarcoma. Numerous scar-tissue bands extended from the cauterized area radially into the vitreous. In the second eye the bands reached the ciliary processes and posterior lens surface. Kurz says that later contraction of these bands may result in secondary detachment of the retina.

In an eye enucleated three weeks after electrocoagulation for detachment, Kronfeld (55) found sequelæ of inflammatory or senile degenerative processes in the retina and choroid such that tears had, or easily could have been formed. He found no evidence to support Leber's theory of preretinitis.

RETINAL DETACHMENT IN PREGNANCY AND RETINITIS

The tendency toward edema of the retina in the toxemias of pregnancy is well known. Jaffe (42) believes that retinal detachment may occur as a part of the picture of edema involving especially the brain, liver, and kidneys. Most cases become cured spontaneously. The prognosis for vision depends on the changes left by the retinitis and papillitis.

Pavia (69) reports a case of retinal detachment due to diabetic retinitis in which operation was followed by some improvement in vision.

TREATMENT

The Gonin ignipuncture. The original Gonin operation (32) consists in accurate localization of the tear on the surface of the globe, reflection of the conjunctiva, incision with a Graefe knife to remove the subretinal fluid, and the introduction of the hot Pacquelin cautery into the opening for a distance of from 3 to 5 mm. from the outer surface of the sclera for one or two seconds (54). This procedure is still employed by some. Gonin (31) claims that the galvanocautery used by Vogt and others in place of the Pacquelin cautery has no advantage over the latter. It loses its heat more rapidly and its action is slower; therefore it must be left in the eyeball much longer. However, the sharp-pointed galvanocautery has the advantage of permitting several punctures at one sitting, whereas with the Pacquelin cautery two punctures are the maximum.

The disadvantages of the method, according to Gonin, are the risk of abundant hemorrhage into

the vitreous, either at the time of the operation or later, and the difficulty of making a series of applications at one sitting. To these may be added the necessity for accurate localization of the hole. Most ophthalmologists feel that this operation should not be performed in cases in which no tear is found. There is further the possibility of secondary tears (54), shrinkage of the retina, and faulty re attachment.

Anderson (2) has used the Gonin method successfully for anterior retinal dialysis (disinsertion).

For cases with large or multiple tears, Terrien (1), and Dollfus (97) have slightly modified the ignipuncture method first advocated by Pausique. After careful localization and the pre operative use of calcium because of the tendency toward hemorrhage, incisions are made through the sclera in the region of the tear with the Graefe knife and the choroid and sclera are separated with the spatula. The cautery is inserted cold into each incision, turned on for a second or two and then removed. In conclusion one or two punctures are made with the cautery to release the subretinal fluid, the procedure thus differing from the technique of Pausique who punctured before cauterizing.

The Sourdille method. The school of thought of which Sourdille is the leading exponent accepts the retinal tear only as a result of the detachment and therefore refuses to consider its closure as being of any importance in the cure of the condition. According to Schoenberg (82), the object of the Sourdille method is to evacuate the fluid as completely as possible and cause a reaction in the choroid which should result in adhesion between the choroid and the retina. Removal of the subretinal fluid is accomplished with the Graefe knife or cautery or both. The number of punctures varies up to four in total detachments. At the conclusion of the operation a few minims of a 1:1000 solution of mercury oxy cyanate are injected under the conjunctiva in the punctured area and absolute rest for from fifteen to twenty one days is prescribed. In some cases several repetitions of the treatment may be necessary. The originator reported good results in 79 of 170 cases in which this method was used.

The Guist operator. Feeling the limitations of the Gonin ignipuncture especially in cases of large detachments, cases of large tears and cases in which no tear could be found, Guist (38) introduced the chemical cautery method. In this procedure as many as from 18 to 20 trephine openings are made in the sclera, potassium hydroxide is applied to the choroid to produce an adhesive choroiditis and the subretinal fluid is evacuated.

The excess potassium hydroxide is neutralized with 0.5 per cent acetic acid solution. Less accuracy in the localization of the tear is necessary than in the use of the Gonin ignipuncture as a larger area including the tear can be treated. The chief disadvantages of the procedure are its technical difficulty and long duration.

McKeown (67) states that although Gonin, Vogt, and a few others have claimed an incidence of cure as high as 50 per cent from the use of the ignipuncture method, inquiries made of 20 ophthalmologists in America and ophthalmologists in three European clinics reveal that, in their hands the Gonin method has resulted in cure in not more than from 10 to 15 per cent of cases. McKeown favors the Guist method, with which he obtained a cure in 6 and improvement in 3 of 12 cases. He attributes the better results of this method to the larger area treated. Penicbet (70) recommends the Guist method especially for cases with degenerative myopic changes and those with choroiditis, lues, tuberculosis, or aphakia. He uses Green's automatic trephine and the Adelman glass rods dipped in caustic. The latter have cork handles to facilitate handling. Arruga (3) has modified the Guist method by using a 5 per cent solution of potassium hydroxide which does not require neutralization with acetic acid.

Inder (60) has made an important modification of the Guist method to be applied particularly to macular detachments. The lateral rectus is severed (and sutured after the operation), the sclera cut 2.4 mm. behind the limbus with a lancet, the choroid exposed and separated from the sclera with a graduated spatula and the intervening space treated with potassium hydroxide. Trephine openings are then made anteriorly, the choroid is undermined, and potassium hydroxide is again injected. With the use of this 'undermining' method, fewer trephine openings are necessary for the treatment of a larger area. In a case of macular hole vision improved from hand movements to 8/8 with telescopic spectacles and the hole was closed with only the slightest residual central scotoma. For the ordinary detachment 3 per cent potassium hydroxide is used but for macular holes from 1/100 to 1/25 c.c. of a 6 per cent solution is injected.

The diathermy method. The operative method now receiving the widest attention is electrocoagulation. This may be said to offer the advantages of the Guist method (the production of a large area of adhesive choroiditis which requires less exact localization of the hole) without the technical difficulties and tediousness of chemical cauterization. Larson applies diathermy without

perforation over the detached area and at the conclusion of the procedure allows the subretinal fluid to escape through a trephine hole. Weve encircles the tear with a number of perforations made with a fine conical diathermy needle reaching the retina and from 40 to 50 ma. of current turned on for one second at each entrance. Šafář (79), working independently, devised small detachable electrodes of various shapes with needles 1.8 mm. long with which he made scleral punctures surrounding the tear, causing coagulation of the underlying choroid. When the needles are removed at the conclusion of the operation the subretinal fluid escapes through the punctures.

Walker (105) has devised very satisfactory equipment for this type of work, viz., iridium-hardened platinum detachable micropins which are non-insulated and therefore give some trans-scleral dosage (Larsson effect). These pins are kept threaded to prevent their loss, and are single so that they can be rotated to facilitate their removal. Gresser (36) employs non-rusting electromagnetic 2-mm. needles which obviate the necessity of trephining or piercing the sclera as sufficient subretinal fluid escapes through the openings made by the needles. Gresser regards the withdrawal of subretinal fluid as essential for the operation. He makes a complete ring of adhesions around the retinal tear with the high-frequency current. Schoenberg (85) has devised new electrodes which he considers better than the Šafář and Walker electrodes. They are made of iridium platinum as well as stainless steel, like the latter, but are double and bent so that they penetrate the sclera in an oblique direction. Threads are unnecessary.

The strength of the current used in electrocoagulation is very inaccurate when measured by ordinary means. Coppez (15) has devised a pyrometric electrode which measures the amount of heat produced at the point of application. This is made possible by the incorporation of a thermoelectric couple in the electrode. A temperature of 80 degrees C. is advised. The Coppez electrode places the dosage on a much more accurate basis than was previously possible. Coppez advises that two rows of applications be made at some distance from the tear, one or more areas of coagulated sclera removed with the trephine, and the holes carefully punctured with a needle to remove the subretinal fluid.

Klein (50) has modified the contact glass so that it may be used in observing the fundus ophthalmoscopically during electrocoagulation, an aid which should be equally valuable for other types of detachment operations.

Šafář (79) claims as advantages for the diathermy method a simple, uncomplicated technique, less trauma to the eye than in the use of other methods, and the possibility of treating an extensive area when necessary.

Weve (109) describes two methods. In one, he uses a ball electrode which coagulates the sclera without perforation, and in the other, a perforating needle. The first method is employed only for disinsertions and flat detachments.

Kronfeld (54) thinks that the small openings from the needles do not insure drainage of the subretinal fluid and that it is better to make one or two trephine openings in addition.

Genet (28) uses diathermic coagulation by plunging the needle through the sclera into the pocket of the detachment and then turning the current on for two seconds. It is only when the eye is soft and the needle does not penetrate the sclera readily that the conjunctiva is dissected away and the sclera incised with a knife.

Kadlicky (46) states that he has obtained the best results with diathermy when he has divided the diseased part of the retina from the healthy portion by connected areas of electrocoagulation. He thinks that the rupture is only an indication of the most diseased part of the retina, the parts adjacent to the tear being also pathological. Treatment of a wide area is therefore necessary. In cases in which such treatment was given the incidence of cure was 71.4 per cent whereas in the total number of cases operated upon it was 31.9 per cent.

Weve (110) urges that too slight coagulation be avoided. He states that one adequate operation is better than several repeated operations. Exact localization is essential even with this method.

Electrolysis. Vogt (102), in May, 1934, suggested a method of treatment by electrolysis, with which he claims excellent results as yet unconfirmed by other workers. This method had been used by Schoeler in 1893 who paid no attention to the hole and whose results were not noteworthy. Multiple momentary punctures are made in and at the margin of the hole with the cathode (electrolysis needle), the anode lying on the eyeball. A current of from 0.5 to 1 ma. is necessary. The method is very delicate, any number of applications may be made, the scars are delicate, and there is no danger from heat or caustic solutions or of producing new holes in the retina (as with diathermy).

The use of sutures. Rubbrecht (76), after experimenting on animal eyes, used sutures in clinical cases as a mechanical agent to produce an inflam-

matory reaction causing complete re attachment of the detached retina. In each case two silk sutures were passed through the sclera to include the detachment. It is felt that much more work must be done before the place of sutures in the treatment of detachment can be determined accurately.

Complications. The nature and degree of complications vary somewhat with the type of operation performed and with the experience of the operator. Of a series of 155 eyes operated upon by Dunnington and Macne (23), there were atrophic changes in the retina and choroid in 12 and hemorrhages into the vitreous in 9. In 25 per cent enucleation or eversion of the eye became necessary. In Shapland's (88) large series of cases at the Royal London Ophthalmic Hospital, complications following the Gonin operation included secondary rents, vitreous hemorrhage, traumatic cataract, and transient uveitis. Following the Lindner Guist procedure there occurred secondary rents, vitreous hemorrhage, uveitis, vortex vein thrombosis and subretinal hemorrhage. After the Larsson method, complications were infrequent with the exception of secondary holes. According to Guist (38) the chief complications are hemorrhage, necrosis, atrophy, and nutritional changes in the cornea. After operating on more than 900 cases Guist believes there is little danger from repeated operations and that if proper precautions are taken it should be possible to obtain a cure in up to 85 per cent of cases.

Rieger (74) reports a study of the eyes of patients operated on in the Second Eye Clinic at Vienna who were discharged with an unhealed detachment. In about 20 per cent the retina later became re attached (Gonin and Guist operations). Twenty five per cent of the patients became blind. The incidence of blindness was about the same after the Guist and Gonin procedures but on the whole vision was better after the Guist operation. Total complicated cataract developed in 42 per cent of the eyes treated unsuccessfully by ignipuncture and in 27 per cent of those treated unsuccessfully by multiple trephining and cauterization. Seventeen and six tenths per cent of the uncured eyes became atrophic after the Guist operation and 11.1 per cent after the Gonin operation. No cases of sympathetic ophthalmia were observed. In a study of eyes operated upon successfully in the same clinic, Kleiner (51) found no instance of the development of cataract.

In a series of 100 operations, Weve (110) observed an anaphylaxis to diathermy in 2 cases previously treated by heat.

Contra indications causes of failure. It is now generally agreed that operative interference offers

the only hope of cure of retinal detachment since previous to the work of Gonin, 40 methods of treatment offered hope of cure in only 1 in 1,000 cases. Most ophthalmologists favor early operation as giving the most favorable prognosis. Safar (79) thinks that the best results are obtained by his method in cases in which the detachment has been present for less than five months. He states that while re attachment has occurred following his treatment in several cases in which the detachment had been present for from one to three years these were not cases of total detachment and shrinkage of the retina. Aphakic eyes rarely react well. Old persons who cannot be kept in bed long and who bleed readily are poor risks. Similar poor experience with aphakic eyes has been reported by Dunnington and Macne (23) who observed no improvement in 9 such eyes operated upon for detachment. In 1932 Weve reported that he obtained a cure in only 33 per cent of aphakic eyes whereas the average incidence of cure in cases of recent detachment was 80 per cent.

Shapland (88) found that, of 221 cases operated upon by the Gonin method, cure was obtained in 40 per cent of those in which the operation was done within six weeks and only 10 per cent of those in which it was performed after the detachment had been present for more than six months. Vogt (103) reports a case in which diathermy treatment of a detachment of seven and three quarters years' duration in a patient with myopia of 9 diopters was followed by re attachment and improvement of vision from 1/200 to 5/30.

Verdaguer (100) reports that of 24 cases which he treated by the Gonin operation he obtained a cure in 15. In the cases of all patients over fifty two years of age this treatment failed. Of the others the results were poorest in those in which the detachment started above and had migrated downward before the operation. Seidel (87) emphasizes that the operation is contra indicated in the cases of patients over seventy years of age who have a disturbance of the circulatory apparatus or a disposition to thrombosis.

Schoenberg (84) analyzes 9 failures in 23 cases operated upon by the diathermy method. In several of these the prognosis was poor because of long duration of the detachment with degeneration of the retina and vitreous. Some of the failures were accounted for by lack of cooperation by aphakia, or by vomiting after the operation but others seemed to be due to such factors as atrophy and consequent failure of the choroid to react a degenerated and folded retina incapable of returning to the normal position non resorbable sub

retinal fluid, and adherence of the retina to the vitreous

From a study of uncured cases of detachment in the Second Eye Clinic in Vienna, Rieger (74) concluded that old age of the patient, long duration and large extent of the detachment, multiplicity, large size, and invisibility of the tears, and lack of cooperation on the part of the patient make the prognosis unfavorable. Traumatic detachments and detachments occurring in aphakic eyes are less amenable to treatment than detachments occurring in myopic eyes. Rieger attributes this fact to the myopic degeneration of the vitreous which relieves the retina of the inward traction so often exerted by the normal vitreous.

Shortening of the retina may make replacement impossible. In cases with this complication Lindner (61) has attempted to shorten the scleral capsule by a modification of the method first advocated by Muller. In 13 cases operated upon in this manner there were no serious complications. Lindner says that the operation for cure of the detachment should be delayed for at least one week after the globe-shortening operation.

According to Arruga (3), the favorable factors for operation are recent occurrence of the detachment, youth and good general condition of the patient, limitation of the lesion, and absence of external and internal ocular reactions.

Prophylactic and pre-operative treatment. Lindner (63) writes of the "prevention" of spontaneous retinal detachment by the prevention of tearing in cases of choroiditis, myopia, and senility which favor the occurrence of tears. Theoretically, the following procedures may be considered: (a) interruption of the nerves to the extra-ocular muscles, (b) the excision of pieces of the muscles, (c) optical restriction of eye movements by the use of glasses with strong peripheral aberration, and (d) the use of stenopeic spectacles. The optical method is probably the most practical as the "Lochbrille" with a central clear area of 4 or 5 mm restrict the visual field too much. Although Lindner has never performed an operation for the prevention of retinal detachment he believes that some day such an operation may be done when detachment is imminent.

Gonin (33) urges that non-operative treatment be instituted if operation for the cure of detachment cannot be performed immediately. He states that after accurate localization the eye should be completely immobilized. Lying flat will not be beneficial unless the detachment is above. Removal of the subretinal fluid leads to transient improvement, but usually does not prevent recurrence of the detachment. Weekers (106) pro-

duces immobilization of the globe by injecting 1 cc of a 1:500 solution of oxycyanate of mercury behind the eyeball. This produces a severe inflammatory reaction (beneficial to the detachment) and exophthalmos, and keeps the globe immobile for a period of several weeks. Eventually the inflammation clears up, leaving the eye undamaged.

As vitreous resting on a wrinkled retina for twelve hours is not able to smooth out the folds in this membrane, Martinez (66) concludes that immobilization alone will not cure detachment although it may be of aid postoperatively.

Postoperative treatment. Safar (79) keeps both eyes bandaged for from ten to twelve days after the operation. His patients then wear stenopeic spectacles and are kept at rest in bed for from two to three weeks. He emphasizes that absolute quiet is necessary, and that attention should be paid to the general condition, especially in the cases of old persons. At the Royal London Ophthalmic Hospital (Shapland, 88) it has been the practice to bandage both eyes and place the patient in such a position that the retinal hole is in the most dependent part of the eye. Atropine is instilled daily and the fundus examined on the fourth and eighth days. On the eighth day the dressings are removed if there has been no improvement, but if the detachment is cured or nearly cured, the eyes are rebandaged for another seven days. Absolute rest is insisted upon. Atropine is instilled daily for a month. Schoenberg (83) makes no fundus examinations until after from ten to fourteen days. He removes the sutures at the end of the third week. He then keeps both eyes bandaged for two weeks and at the end of that time prescribes the wearing of stenopeic spectacles for two months. He forbids reading, automobile riding, and sexual intercourse for three months.

Arruga (6) agrees that rest of the eye is the most important postoperative factor in healing of the detachment. He obtains it by suturing the lid to the eyeball, which he thinks is more effective than the use of stenopeic spectacles. He believes that if the eye is completely immobilized the relation of the position of the detachment to the position of the head is of no importance. Like Weekers, he has found retrobulbar injections of aid in obtaining complete immobilization.

POSTOPERATIVE RESULTS

The re-attached retina. Kronfeld (53) calls attention to the fact that from the patient's viewpoint the end-result is not anatomical re-apposition of the retina but restoration of function and

the ability to see. By careful perimetric studies in 6 cases Kronfeld found no permanent remote notorious effects from uncomplicated operations by the Gonin Lindner Guist or Weve Safar methods. He states that the prognosis is favorable in partial or complete macular detachments of less than two months duration and in partial macular detachments of over two months duration. Outside the limited area of operation the 2 degree white isopter was normal and the 0.17 degree isopter constricted, the degree of constriction depending upon the duration of the detachment and also perhaps on the age of the patient.

Dunnington and Macne (23) found the preoperative fields corresponding closely to the area of detachment. They believe that if a careful perimetric study is made postoperatively some impairment of function will nearly always be found, the amount depending not upon the preoperative viability of the detached retina, but upon the damage resulting from the operative procedure. However, the grosser field for form usually returns to normal.

Kleiner (51), analyzing the cases operated upon successfully at the Second Eye Clinic in Vienna, observed that central vision and the visual fields improved slowly after the retina became reattached. In 70.3 per cent of the cases maximum vision was reached within the first year, and in the remaining 29.6 per cent within the second year after the last operation. Recovery of the peripheral portion of the retina was slowest, the fields not becoming full until the second year in 50 per cent of the cases.

According to Sallmann and Sveinsson (80) the visual acuity obtained depends chiefly upon the previous duration of the detachment. If this was not over three months vision should be good but in cases of detachment present for from five to eleven months vision of from 0.1 to 0.3 is not unusual. The prognosis is best if the preoperative vision is at least counting fingers and not more than three operations are required. The amount of the detachment and the age of the patient are not important. The visual field especially for blue is recovered most promptly in cases of detachment of short duration but the recovery may continue for years.

Stallard (93) reports 2 cases operated upon by the Larsson technique in which the immediate result was a failure but after several weeks the retina became reattached, perhaps because the scar permitted fluid to pass through in the early stage and final closure resulted in absorption of the subretinal fluid and prevented more from reaching the space.

Comparison of methods. As pointed out by Goulden (34) the determination of the percentage of patients cured by a method of treatment must depend of course on the definition of clinical cure and also on whether the patients were selected for that treatment or all patients with detachment were included in the series without regard to the prognosis. Therefore a comparison of the percentages of cure obtained by various ophthalmologists with the various methods is not very significant.

Gonin (30) does not believe that electrocoagulation is likely to replace his ignipuncture method, but concedes that when it is necessary to place a large chain of adhesions as in a large tear, a large disinsertion, or a detachment of unknown origin there are advantages to electrocoagulation and the Guist Lindner technique. He prefers diathermy as the more simple of the latter procedures. Barkan, Smith, and Boyle (7) claim that cure can be obtained by the ignipuncture method in 50 per cent of cases if the cases are selected. They operated by this method in only 14 of 40 cases seen.

McKeown (6) concludes that most surgeons not obtaining the high percentage of cures with ignipuncture claimed by Gonin and that better results are possible with the Guist method. Castroviejo (11) reports that at the Medical Center of Columbia University a cure is obtained in 15 per cent of the cases treated by the Gonin method and in 40 per cent of those treated by the Guist method.

Safar (79) obtained a cure in 85 per cent of the first 40 cases in which he operated by the diathermy method in 1934 and in 57.5 per cent of the 40 in which he used this method in 1935 whereas in cases of uncomplicated detachment of not more than five months duration the incidence of cure was 90 per cent.

Of a series of 130 cases reported by Dunnington and Macne (23), 6 were operated upon by the Gonin technique with failure in all. Of 92 in which the chemical cauterization method of Guist was used, cure resulted in 46.7 per cent and improvement in 0.5 per cent. Of 18 cases the electrocoagulation method of Walker resulted in cure in 38.8 per cent and improvement in 16.6 per cent. Dunnington and Macne therefore conclude that chemical cauterization and diathermy give about equal results.

In comparing the results of the methods used in the series of 415 cases of retinal detachment at the Royal London Ophthalmic Hospital, Shapland (88) found that the best results were obtained with diathermy by the Larsson method, the in

cidence of cure being 47.2 per cent following that method as compared with 27.6 per cent following the Gonin method and 25.3 per cent following the Guist-Lindner method. King (48) also favors the Larsson method.

Engelking (24) has abandoned the Gonin operation and adopted Weve's diathermy. He believes his results with the newer method are much better than those he obtained with the older method, and that the newer method is as effective as, and less complicated than, the use of caustic potash. Weve (111) reports that in 1932 he obtained a cure by his method in over 80 per cent of cases in which the detachment had been present for less than two months. Vogt (101) has used the Weve technique for peripheral tears but the galvanocautery for large tears at the ora.

Pischel (73) is optimistic with regard to the diathermy method. He reports 6 cures in 16 unselected cases, 10 of which were unfavorable.

Peter (71) believes that electrocoagulation offers a means of treating retinal detachment which is less traumatic, less time-consuming, less tedious, and more efficient than any of the other methods previously advanced. He recommends particularly Walker's equipment.

After a year's experience with the ignipuncture method and a second year with the Guist-Lindner method, Knapp (52) reports 12 cases operated upon by electrocoagulation with cures in 8 and improvement in 2. He states that because of the dangers and difficulties of the other methods and the good results obtained by diathermy, the latter method has become very popular. In the cases reported he used the Šafář electrodes.

Pischel (72) believes that the Šafář operation has all the advantages of the Lindner-Guist procedure without its disadvantages. The disadvantages of the Larsson method are the uncertain transscleral dosage, the extensive destruction of the choroid and retina, and the single trephine hole for drainage.

According to Coppez (14), diathermy under pyrometric control best meets the requirements in the majority of cases.

Among others favoring diathermy as the method of choice are Jeandelize and Baudot (44), Spratt (61), Kirwan (49), and Kadlicky (46).

Late in 1932 Arruga (3) reported on 216 cases which he had observed. Of these, 164 were operated upon, with cure in one-third. At first, Gonin's operation was done, but later was abandoned for the use of the galvanocautery. Still later, Arruga adopted the Guist technique because it requires less exact localization of the tear than the older method. An analysis of 83 cases treated at the

Second Eye Clinic in Vienna revealed a higher degree of success with the Guist than with the Gonin technique (51). In the same clinic, Sallmann and Sveinsson (80) found that ignipuncture caused more damage to the fields than the Guist method.

Von Hippel (40) has had more success with the Weve diathermy method than with the Gonin method. He has not used the Guist or Lindner procedures.

CONCLUSIONS

Gonin deserves credit for establishing the operation for retinal detachment upon a scientific and rational basis which can offer some hope of cure to the sufferer previously doomed to blindness. However, developments during the past two years indicate that operative procedures which produce a greater area of adhesive choroiditis than can be obtained with the cautery are more likely to succeed than cautery methods. Of the operative methods now in use, diathermy offers the greatest promise as the chemical cauterization method of Guist is too complicated for the average surgeon and requires too much time. Performing electrocoagulation seems to be the preferred method. Newer refinements in the electrodes and the more accurate dosage now possible with the pyrometric electrode make for increasing success.

While the rôle of the tear in the detachment is still unproved, knowledge regarding the pathological processes preceding the tear and bringing on the detachment is being gradually increased. In the past two years there has been much progress in this direction which should lead to a better understanding in the future. The nature and treatment of retinal detachment are not yet a closed book.

BIBLIOGRAPHY

1. ABADIA, J. L. The etiology of detachment of the retina. Fourteenth Internat. Ophth. Cong., Madrid, Spain, 1933 (Abstract). *Arch. Ophth.*, 1934, 11, 555.
2. ANDERSON, J. R. Anterior dialysis of the retina: disinsertion or avulsion at the ora serrata. *Brit. J. Ophth.*, 1932, 16, 641, 705.
3. ARRUGA, H. Experiencia personal sobre el tratamiento del desprendimiento de la retina y descripción de sus recientes modalidades operatorias. *Arch. de oftal. hispano-am.*, 1932, 32, 614.
4. IDEM. Die Schwierigkeiten der Aufindung der Netzhautrisse. *Klin. Monatsbl. f. Augenh.*, 1933, 60, 753.
5. IDEM. The etiology and pathology of retinal detachment. Fourteenth Internat. Ophth. Cong., Madrid, Spain, 1933 (Abstract). *Arch. Ophth.*, 1934, 11, 577.
6. IDEM. Ueber die Ruhigstellung des Augapfels in der Behandlung der Netzhautablösung. *Klin. Monatsbl. f. Augenh.*, 1934, 63, 52.

- 7 BARKAN O SMITH H G and ROYLE S F Retinal detachment—its operative cure Reports of cases California & West Med 1933 38 233
- 8 BARTELS M Ueber die Entstehung von Netzhautablösungen Klin Monatsbl f Augenh 1933 91 437
- 9 BÉRICIÉY N Histoire Abrégé des Vici situdes et Succès dans le Traitement du Décollement de la Rétine 1933 Lausanne Payot
- 10 CARAMAZZA J Biomicroscopia del vitreo nel distacco di retina Ra segna ital d'ottal 1933 2 1123
- 11 CASTROVITTO R Statistics on 65 patients operated on by Luiss method Fourteenth Internat Ophth Cong Madrid Spain 1933 (Abstract) Arch Ophth 1934 11 558
- 12 Idem Experimental detachment of the retina permanent retinal detachments produced in rabbits eyes Am J Ophth 1934 17 2112
- 13 COCHET E A Ueber die Anwendung des Augen spiegel's nebst Angabe eines neuen Instrumentes 1853 Leipzig Mueller p 131
- 14 CORFÈZ H Sur les conditions que doivent réaliser les interventions opératoires dans le décollement de la rétine Arch d'ophth 1933 50 572
- 15 Idem L'utilisation de l'Electrode pyrométrique dans le traitement du décollement rétinien Ibid 1933 50 598
- 16 Idem Le traitement du décollement de la rétine par la diathermocoagulation pyrométrique étude expérimentale et clinique Arch internat. de méd exper 1934 9 177
- 17 CONERO C Ricerche sperimentali sulla corio retinite adesiva da diathermocoagulazione Arch d'ottal 1934 41 65
- 18 DEJEAN C Results of experimental detachment of the retina Fourteenth Internat Ophth Cong Madrid Spain 1933 (Abstract) Arch Ophth 1934 11 54
- 19 DE LUCA D Sullo scollamento disseminato della retina Ann d'ottal 1883 12 330
- 20 DEUTSCHMANN R Weitere Mitteilungen ueber mein Heilverfahren bei Netzhautablösung gleichzeitig ein Bericht ueber 101 nach dieser Methode von mir operierte an Netzhautablösungserkrankte Augen Beitr 2 Augenh 1899 40 1
- 21 DE WEEKER L and DE JAEGER E Traité des Maladies du Fond de l'œil et Atlas d'Ophthalmoscopie 1870 Paris Delahaye p 151
- 22 DE WEEKER L and MASSELOV Emploi de la galvano-caustique en chirurgie oculaire Ann d'ocul 1882 5 41
- 23 DUNN LTON J H and MACNIE J P Detachment of the retina operative results in 150 cases Arch Ophth 1933 11 191
- 24 ENGELKING F Genuin oder Wege? Erfahrungen mit der operativen Behandlung der Netzhautablösung Klin Monatsbl f Augenh 1933 91 289
- 25 FERRER H Tratamiento quirúrgico del desprendimiento de la retina Rev cubana oto-neuro-oftal 1932 1 302
- 26 GALEZOWSKI N Nouveau procédé opératoire dans le décollement de la rétine Bull Soc franc d'ophth 1903 20 214
- 27 GILLOIS J Considerations sur le problème médical des décollements de rétine spontanés Bull Soc d'ophth de l'ar 1934 p 252
- 28 LEXER I Traitemen du décollement rétinien par diathermocoagulation perforante Arch d'ophth 1932 49 710
- 29 GONIN J Rev gén d'ophth 1933 37 337
- 30 Idem Mes expériences avec l'electro-coagulation dans le décollement rétinien Arch d'ophth 1933 50 336
- 31 Idem The evolution of ideas concerning retinal detachment within the last five years Brit J Ophth 1933 17 726
- 32 Idem Le Décollement de la Rétine 1934 Lausanne Payot
- 33 Idem Preliminary measures in the operative management of retinal detachment Fourteenth Internat Ophth Cong Madrid Spain 1933 (Abstract) Arch Ophth 1934 11 558
- 34 GOULDEN C Spontaneous and traumatic detachment of the retina and its modern treatment Irish J Med Sc 1932 p 619
- 35 GRAEFF A von Arch f Ophth 1854 1 358
- 36 GRESSER E B A modified electrodiathermy technique for retinal detachment Report of its use in six cases and presentation of modified instruments Am J Ophth 1934 17 340
- 37 GUYOT G Eine neue Ablatio Operation Ztschr f Augenh 1931 73 232
- 38 Idem Die Ablatio-Operation mit Aetzkali und ihre weitere Ausbau Klin Monatsbl f Augenh 1933 90 771
- 39 HAGEDOORN A Detachment and rupture of the retina Am J Ophth 1934 17 400
- 40 HERRF E von Ueber meine bisherigen Isergebnisse bei der operativen Behandlung der Netzhautablösung mit Bemerkungen ueber traumatische Netzhautablösung Klin Monatsbl f Augenh 1934 91 145
- 41 HORNIXER Retinal detachment and vasomotor nervous Fourteenth Internat Ophth Cong Madrid Spain 1933 (Abstract) Arch Ophth 1934 11 555
- 42 JAFFE M Retinal detachment in toxemia of pregnancy Report of a case Ibid 1933 10 754
- 43 JASIN M Physical chemistry of the subretinal fluid in myopic detachment Fourteenth Internat Ophth Cong Madrid Spain 1933 (Abstract) Ibid 1934 11 554
- 44 JEANDELIER F and BALLOT R Nos résultats actuels dans le traitement du décollement rétinien par la diathermie Arch d'ophth 1933 50 793
- 45 Idem Quelques cas d'exportés médicaux pour décollement rétinien à la suite de petits traumatismes ou de traumatismes indirects Bull Soc d'ophth de l'ar 1934 p 197
- 46 KAPILKY Ceskosl Ophthal 1934 2 61
- 47 KAPILSKY W Sur le décollement de la rétine avec remarques sur la mécanique des mouvements à l'intérieur du globe oculaire Ann d'ocul 1933 170 620
- 48 KING L F A series of 31 cases of retinal detachment treated by diathermy Brit J Ophth 1933 17 287
- 49 KIRWAN F O The etiology and treatment of retinal detachment Indian M Gaz 1934 69 4
- 50 LIEB M A contact glass to be used in operations on retinal detachment Arch Ophth 1933 13 250
- 51 KLEINER L Nachprüfung der in den Jahren 1928-1931 und der II Uni ersatzts Augenklunk in Wien operativ behandelten Fällen von Netzhautablösung Arch f Ophth 1934 132 205
- 52 KNAPP A Operative treatment of retinal detachment with elect coagulation Arch Ophth 1933 50 733

- 53 KRONFELD, P C The function of the re-attached retina Ibid, 1933, 10 646
- 54 Idem The development of the tear-searing operation up to date J Missouri State M Ass, 1934, 31 1
- 55 Idem The histological appearance of recent retinal tears Arch Ophth, 1935, 13 779
- 56 KURZ, J Ceskosl Ophthal, 1934, 1 66
- 57 LARSSON, S Operative Behandlung von Netzhautabhebung mit Elektro-endothemie und Trepanation Acta ophth, 1930, 8 172.
- 58 LEBER, T Ueber die Entstehung der Netzhautablosung Klin Monatsbl f Augenh, 1882, 20 18
- 59 LINDNER, K Ein Beitrag zur Entstehung und Behandlung der idiopathischen und der traumatischen Netzhautabhebung Arch f Ophth, 1931, 127 177
- 60 Idem Ueber eine neue Operationsmethode fuer Netzhautabhebungen bei Netzhautdefekten am hinteren Augenpol Ibid, 1932, 128 654
- 61 Idem Heilungsversuche bei prognostisch unguenstigen Fallen von Netzhautabhebung Ztschr f Augenh, 1933, 81 277
- 62 Idem Retinal detachment Fourteenth Internat Ophth Cong, Madrid, Spain, 1933 (Abstract) Arch Ophth, 1934, 11 558
- 63 Idem The prevention of spontaneous retinal detachment Ibid, 1934, 11 148
- 64 MAGROT, A Subretinal fluid in idiopathic detachment of the retina Ibid, 1934, 11 159
- 65 MARTIN, G Tr Internat Cong Med, Lond, 1881, p 110
- 66 MARTINEZ, L Is rest treatment of practical value in detachment? Fourteenth Internat Ophth Cong, Madrid, Spain, 1933 (Abstract) Arch Ophth, 1934, 11 564
- 67 MCKEOWN, H S Detachment of the retina the Guist operation and a report of cases Ibid, 1933, 9 64
- 68 PAVIA, J L Desgarros de retina sin desprendimiento coexistencia con degeneración senil, curación espontanea y nuevo desgarro Rev oto-neuro-oftalmol y de cirug neurol, 1933, 8 356
- 69 Idem Notable modificación del aspecto oftalmoscópico de una grave corio-retinitis diabética por la retina Rev Asoc mcd argent, 1934, 48 313
- 70 PFENICHT, J M Tratamiento del desprendimiento de la retina por método de Lindner-Guist modificado Rev cubana oto-neuro-oftal, 1932, 1 309
- 71 PITIK, L C Treatment of retinal detachment by Walker's method of electrocoagulation Report of cases Arch Ophth, 1934, 11 262
- 72 PISCHFL, D K Detachment of the retina—its present operative treatment Am J Ophth, 1933, 16 1091
- 73 Idem Retinal detachment—diathermy puncture and coagulation California & West Med, 1933, 39 421
- 74 RIFGER, H Bericht ueber die von Anfang 1929 bis Ende 1931 an der II Universitaets-Augenklinik in Wien nach Gonin oder nach Guist operierten und als ungeheilt entlassenen Faelle von Ablatio retinae Arch f Ophth, 1933, 131 410
- 75 ROETH, A von The importance of the vitreous in the genesis of detachment of the retina Klin Monatsbl f Augenh, 1933, 91 782
- 76 RUMREIT, R La suture dans le traitement du décollement rétinien Arch d'ophth, 1933, 50 608
- 77 SARRADINI, D Research on the etiology of idiopathic retinal detachment Fourteenth Internat Ophth Cong, Madrid, Spain, 1933 (Abstract) Arch Ophth, 1934, 11 555
- 78 ŠAFÁŘ, K Behandlung der Netzhautabhebung mit multipler diathermischer Stichelung 1933 Berlin, Karger
- 79 Idem Detachment of the retina, treatment with multiple diathermic puncture and its results Arch Ophth, 1934, 11 933
- 80 SALLMANN, L, and SVEINSSON, K Ueber Seh-schaerfe und Gesichtsfeld bei operativ geheilter Netzhautabhebung Arch f Ophth, 1933, 130 1
- 81 SCHOFLER, H L Zur operativen Behandlung und Heilung der Netzhautablosung 1889 Berlin, Peters
- 82 SCHOENBERG, M J The present status of surgical treatment of retinal detachments Arch Ophth, 1933, 9 982
- 83 Idem Diathermic treatment of retinal detachments Pennsylvania M J, 1934, 37 635
- 84 Idem Retinal detachments, clinical experiences with diathermic treatment Arch Ophth, 1934, 12 700
- 85 Idem An electrode which simplifies the technique of electrosurgical treatment of retinal detachments Ibid, 1935, 13 252
- 86 SEDAN, J De l'importance de la tension du liquide sous-rétinien Ann d'ocul, 1933, 170 947
- 87 SEIDEL, E A contra-indication in operations for retinal detachments Report of a case Klin Monatsbl f Augenh, 194, 92 397
- 88 SHAPLAND, C D Retinal detachment and its treatment by surgical methods A review of 425 cases Brit J Ophth, 1934, 18 1
- 89 SONDERMANN, R Augendruck und Amotio Arch f Augenh, 1933, 107 366
- 90 SOURDILLE, G Etude histologique de deux cas récents de décollement de la rétine Bull et méim Soc franc d'ophth, 1932, 45 236
- 91 SPRATT, C N Recent advances in the treatment of detachment of the retina J-Lancet, 1934, 54 117
- 92 STALLARD, H B The histological appearances of an eye successfully treated by diathermy for retinal detachment Fatal termination from pulmonary thrombosis on the nineteenth day after the operation Brit J Ophth, 1933, 17 204.
- 93 Idem Two cases of retinal detachment presenting certain unusual features after operation by surface diathermy Ibid, 1935, 19 31
- 94 STINE, G H Tables for accurate retinal localization Am J Ophth, 1934, 17 314
- 95 SZILY, A von, and MACHEMER, H Experimentelle Untersuchungen ueber die zweipolige "Oberflaechenelektrolyse" als Methode zur Behandlung der Netzhautablosung Klin Monatsbl f Augenh, 1934, 92 44
- 96 TAKAMATSU, T Anatomical examination of retinal detachment Acta Soc ophth jap, 1933, 37 14
- 97 TERRIFF, F, VIII, P, and DOLLFUS, M A Quatorze cas de décollement rétinien traités par les galvano-cautérisations supra-choroïdiques, technique de Pautique Arch d'ophth, 1933, 50 81
- 98 Idem Results of operative treatment in detachment, report on 70 cases Fourteenth Internat. Ophth Cong, Madrid, Spain, 1933 (Abstract) Arch Ophth, 1934, 11 562
- 99 VELHAGEN, K, JR Sobre la formación de un desgarro retinal antes del desprendimiento Rev cubana oto-neuro-oftal, 1932 1 369
- 100 VEPDIGTER, P J Dos años de experiencia de la operación de Gonin para el desprendimiento de la retina Arch de oftal hispano-am, 1933, 33 554
- 101 VOOR, A Operative treatment of detachment of the retina Fourteenth Internat Ophth Cong, Ma-

- drid Spain 1933 (Abstract) Arch. Ophth., 1933 10 203
- 102 Idem Detachment of the retina treatment with the electrolysis needle Ibid 1934 12 840
- 103 Idem Netzhautopazität durch spezifisch helle Lichtquellen als Mittel zur Diagnose der Amotio Ztschr f Augenh., 1934 84 19
- 104 Idem Freischwebender Lochdeckel der Netzhaut eine Form von Glaskörpertrübung Mit Beobachtungen ueber latente Foramina retinae Klin Monatsbl f Augenh. 1934 92 577
- 105 WALKER C Retinal detachment Am J Ophth 1934 17 1
- 106 WIEKERS Retinal detachment Fourteenth Internat. Ophth Cong Madrid Spain 1933 (Abstract) Arch Ophth 1934 11 559
- 107 WISS H and EVANS J N Experimental production of detachment of the retina Am. J Ophth 1934 17 637
- 108 WEVE H J M Retinal detachment treatment by Gonin's method Nederl Tijdschr v Geneesk 1930 74 2354
- 109 Idem Quelques remarques sur le traitement diathermique des décollements rétiniens Bull. et mém. Soc franç d'ophth 1932 45 269
- 110 Idem Diathermy in ruptures associated with detachment of the retina Klin Monatsbl f Augenh 1932 89 828
- 111 Idem Diathermy in the treatment of detachment and of buphthalmos Fourteenth Internat. Ophth. Cong Madrid Spain 1933 (Abstract) Arch. Ophth 1934 11 553

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Martin, H. E., and Pflueger, O. H.: Cancer of the Cheek (Buccal Mucosa): A Study of Ninety-Nine Cases, with the Results of Treatment at the End of Five Years. *Arch Surg*, 1935, 30 731.

An unselected series of ninety-nine cases of cancer of the cheek is subjected to critical analysis.

Carcinoma of the buccal mucosa constitutes 9.5 per cent of all intra-oral tumors. It is chiefly a disease of old age and is seen less often in young persons than any other form of intra-oral cancer. In the cases reviewed by the author the average age of the patients was fifty-nine years. The right and the left cheek were involved with about equal frequency. The site most often involved is the mid-portion of the cheek opposite the occlusal level of the teeth, but a considerable number of the carcinomas arise just posterior to the labial commissure.

Chronic irritation is a more obvious etiological factor in carcinoma of the cheek than in any other type of intra-oral cancer. The most common chronic irritants to the buccal mucosa are sharp and broken teeth, ill-fitting dental appliances, syphilis, and tobacco.

Leukoplakia is a common precancerous response to chronic irritation of the mucous membranes composed of flat pavement epithelium. It was found in about 70 per cent of the cases of cancer of the cheek reviewed by the authors. In susceptible persons, chronic irritation may produce either cancer or leukoplakia or both. In some cases the leukoplakia may undergo malignant change.

The diseases other than cancer which most commonly produce ulcerated lesions of the buccal mucosa are syphilis, tuberculosis, superficially ulcerated or fissured leukoplakia, herpes, and simple granulomas (trauma, Vincent's angina). A positive Wassermann reaction alone does not rule out the presence of cancer as in a large percentage of cases syphilis and cancer co-exist. Tuberculous ulcers may occur on the buccal mucosa, but are more common on the tongue. They usually present a yellowish, unhealthy base which is in contrast to the coarse, granular appearance of cancerous lesions, and they are likely to be tender and painful. The diagnosis is made by the aid of biopsy (preferably repeated), roentgen examination of the chest, and examination of the sputum. Tuberculous ulcers of the oral mucous membranes are almost invariably secondary to demonstrable pulmonary tuberculosis. A definite diagnosis of simple granuloma should never be made until the results of biopsy have been found re-

peatedly negative for cancer. Biopsy may be temporarily delayed if there is a history of recent adequate trauma such as biting of the cheek.

Nine-five per cent of cancers of the cheek are epidermoid carcinomas. Adenoid tumors may arise from minor salivary glands of the buccal mucosa. In one of the cases reviewed by the authors the lesion was a myxosarcoma.

The average duration of the symptoms, according to the statements of the patients, was nine months. In only 18 per cent were the symptoms present for less than two months.

The early tendency toward invasion of the neighboring structures indicates the unsuitability of surgical measures for control of the primary lesion and explains the indifferent surgical results reported in the literature. While extension to the lower jaw alone or to the lips might be dealt with by extensive surgical procedures, there is little chance of controlling involvement of the lateral pharyngeal wall or of the palate by even the most extensive surgical intervention.

Metastases tend to occur comparatively late in the course of the disease. Although, in the cases reviewed, the average duration of symptoms prior to the patient's admission to the hospital was nine months, fifty-six (56 per cent) of the patients had no palpable nodes at the time of admission. As a rule the disease does not extend beyond the submaxillary triangle. This fact is of great importance in dealing with metastases to the nodes of the neck.

In the treatment of cancer of the cheek, three distinct problems must be considered: the hygienic care of the oral cavity before and during the treatment, the treatment of the primary lesion, and the management of the cervical metastases.

A sharp tooth, especially if in contact with the lesion, should be filed smooth or possibly extracted. The extraction of a large number of teeth should be avoided as the attendant laceration of the gums temporarily increases oral sepsis and delays treatment. The extraction of teeth following heavy irradiation is so commonly followed by osteomyelitis that, in spite of the chances of local spread of the disease, the authors often advise the extraction of a limited number of condemned teeth. In all cases the surfaces of the teeth should be thoroughly cleaned by a dentist and the patient instructed in the use of a toothbrush.

The most successful treatment of carcinoma of the cheek is a combination of irradiation and surgical intervention. The primary lesion should be treated almost entirely by irradiation. In the cases re-

viewed the plan was first to give one application of external roentgen irradiation. The skin portal included the primary lesion and the submaxillary triangle. In a few cases the radium element pack was used to deliver about the same skin dose at a distance of 6 cm. This dosage was ordinarily a little more than 1 skin erythema dose. After its administration a tray with an area of 30 sq cm and a filter of 2 mm of brass at a distance of 3 cm, was applied externally to the cheek opposite the primary lesion and a dose of from 2,500 to 3,000 mc hrs was administered. At the present time the authors are giving the external irradiation through the cheek to the primary lesion in multiple divided doses of roentgen irradiation rather than by the use of the single dose of roentgen rays and the radon tray. From 2,500 to 3,000 units are given in from ten to fifteen divided doses over a period of from two to three weeks with a circular skin portal 7 or 8 cm in diameter. In the cases reviewed the external irradiation was followed by interstitial irradiation by means of gold implants (with a filter of 0.3 mm of gold) which were inserted into the primary lesion. In certain instances—often not in the most malignant cases—the growth tends to fungate into the mouth rather than to infiltrate the cheek deeply. In such cases the period of convalescence may be shortened by removing the tumor mass to the level of the mucosa with the actual cautery.

If no nodes are palpable at the time of the patient's admission to the hospital the authors usually give one treatment by external irradiation to the cervical region. They then give no further treatment to the neck until definite palpable evidence of the presence of metastases appears. They are opposed to prophylactic neck dissection.

If metastases are present at the time of the patient's admission to the hospital the authors usually perform a neck dissection after the primary lesion has been controlled or insert gold seeds after exposing the nodes by a short incision through only the skin and superficial tissues. This exposure permits more accurate measurement of the node, which is essential in the determination of the dosage and allows accurate placement of the implants.

In cases of hemorrhage from erosion of the facial artery by an extensive uncontrolled primary lesion ligation of the external carotid artery may be necessary. The heavy irradiation of extensive disease in the lower gingivobuccal gutter or its extension to the lower jaw may be followed by osteomyelitis of the mandible. If the osteomyelitis does not involve the entire cross section of the mandible conservative treatment is indicated until the sequestrum separates. If the osteomyelitis has involved the entire cross-section of the lower jaw resection of a portion of the mandible may be indicated. The operation is performed through the mouth without skin incisions as external scarring and injury to the facial nerve are thereby avoided. In resecting a portion of the horizontal ramus it is advisable to remove the ascending ramus as well for if this is

left it will cause mechanical disturbances and thereby delay healing.

Of the patients whose cases are reviewed 30 per cent were living and free from disease at the end of five years.

JOSEPH A. NAPIER, MD

Leitchauer D J and Cantor M O. *Lugol's Solution in Acute Secondary Parotitis*. *Ann Surg* 1935 101 1171

Acute secondary parotitis is a rare complication which has an unusually high mortality especially when it follows a major surgical operation.

When an organ is active in the elimination of a drug that drug if it has an antiseptic action is frequently found to be beneficial in combating infection of the organ. The beneficial effects of antiseptics eliminated through the kidneys in urinary tract infections are well known. As iodine is promptly and rapidly eliminated by the parotid gland the authors administered Lugol's solution in large and continued doses in cases of acute secondary parotitis. They gave it orally and by hypodermocentesis in saline solution. It was well tolerated.

In ten cases of acute secondary parotitis treated by this method which the authors report there were no deaths whereas with the usual symptomatic treatment of the disease the mortality is over 33 per cent.

SIMUEL KAHN, MD

Portmann U V. *The Treatment of Salivary Fistula by Irradiation*. *Ann Surg* 1935 101 1175

Salivary fistulas may be relieved by temporary suppression of the secretory activity of the glands. When spontaneous healing of fistulas of the submaxillary or sublingual glands is delayed or surgical removal of these glands appears necessary for the cure of fistula a trial of irradiation is advisable as this treatment is frequently successful.

In cases of parotid fistulas, surgery is often unsatisfactory. The author enumerates the difficulties encountered reviews the empirical and experimental data which led to the use of irradiation in the treatment of parotid fistula, and cites a number of cases including three of his own in which irradiation was employed with good results.

In each of the authors three cases 800 r as measured on the skin over the parotid gland were given in applications of 400 r on each of two succeeding days. Presumably a high voltage (180 kv or more) and heavy filtration (not less than 0.5 mm of copper) were employed as these are recommended by the author.

In conclusion Portmann says that as the secretory activity of the salivary glands may be suppressed by irradiation this treatment may arrest drainage in cases of parotid fistula. The function of the glands may be resumed in about four months but in the meantime the fistula usually closes. If seepage recurs the fistulous tract may be widely cauterized and the gland again irradiated. In particularly resistant cases irradiation might be employed to suppress the salivary secretion temporarily before a

plastic operation is attempted. While the function of the gland may be stopped by irradiation permanently if necessary, temporary suppression is sufficient for the closure of fistulas.

ADOLPH HARTUNG, M.D.

Geschickter, C. F.: Tumors of the Jaws. *Am. J. Cancer*, 1935, 24, 99.

The author reports on 323 cases of jaw tumors which were classified as follows:

Tumor	Cases	Cases
Dental and benign osseous tumors		205
Radicular cysts	57	
Follicular or dentigerous cysts	12	
Adamantinomas	45	
Odontomas	5	
Giant-cell epulis	51	
Central giant cell tumors	25	
Osteomas and ossifying fibromas	70	
Malignant osseous tumors		44
Osteogenic sarcomas		
Sclerosing	10	
Chondral	7	
Ewing's sarcoma	10	
Tumors with skeletal and jaw involvement	8	
Epithelial tumors		14
Epithelial cancers exclusive of intraoral tumors	9	
Adenocystic basal cell carcinomas	2	
Metastatic carcinomas	3	
Aberrant parotid	1	
Total		323

The embryology of the tooth is discussed in order to clarify the origin of various neoplasms. It is pointed out that teeth are ectodermal organs and that the dental lamina and the enamel organ may give rise to strands of undifferentiated basal cells which may take part in tumor formation and form the epithelial lining of certain cystic tumors. More primitive elements of the enamel bud may produce a mixture of epithelial elements characteristic of adamantinomas.

Dental tumors are benign, slowly growing tumors occurring in young adults and producing central cystic expansions within the jaws.

Radicular cysts are fairly common dental tumors characterized by the formation of a cyst about the root of a devitalized tooth as a sequela to chronic inflammatory changes. These cysts expand slowly and without causing symptoms unless they become infected. They have an epithelial lining.

Follicular or dentigerous cysts are relatively rare. They arise from the epithelium of the enamel organ of a non-erupted tooth. They are lined with epithelium and are similar to dental root cysts.

Adamantine epitheliomas are potentially malignant homologues of follicular cysts. They are more common in the lower than the upper jaw. They grow slowly and frequently are first noted because of the loosening of teeth. They may be monocystic or polycystic. The microscopic picture is variable. Rickets may be an etiological factor as it produces

defects in the development of the tooth germ and enamel, causing the budding off of islands of enamel-blastic cells. The treatment indicated is resection as the growth is at least locally malignant.

Adamantinomas occurring in the ovary, tibia, and hypophyseal duct have been reported.

Odontomas are mixed tumors arising from the enamel epithelium and connective tissue of the dental papilla. The mesenchymal elements usually predominate. Odontomas are of 2 types—a soft undifferentiated type resembling the adamantinoma and a hard, ossified, benign type.

Epithelial hypertrophy, granulation tissue, and angiomatous areas are frequently found in the gums of pregnant women. A disturbance of the endocrine balance may be the etiological factor. Strict oral hygiene is indicated.

The giant-cell epulis arises from the alveolar dental periosteum immediately surrounding a tooth. It is firm and red, and on microscopic examination shows many multinucleated giant cells in a fibrous stroma. It may be treated by cauterization or external irradiation. It is related to the normal proliferation of the odontoclasts occurring in the cementum about the roots of deciduous teeth and providing for the shedding of these structures.

Central giant-cell tumors of the jaw occur within the osseous substance of the jaw. They are correlated in their points of origin with the portions of the skull and jaws derived from cartilage, and are apparently related to the resorption of calcified cartilage by giant-cell osteoclasts.

Benign ossifying tumors of the jaw are growths of a more cellular type which occur in younger individuals and are frequently regarded as fibrosarcomas. Cortical bone is produced at the margin of these growths. The tumors are composed of fibrous tissue containing osseous spirules.

The osteomas are a more differentiated form of ossifying fibroma. Their course is very benign.

Osteogenic sarcomas are fairly rare. Their course is very rapid. On roentgen examination irregular dense foci of new bone production are to be seen alternating with areas of bone destruction. The margin of the tumors will show a periosteal reaction with occasional spicule formation extending at right angles. These neoplasms do not differ microscopically from osteogenic sarcomas arising subperiosteally in the long bones.

Chondrosarcomas apparently arise from benign cartilaginous rests embedded in the mandible near the symphysis or at the angle. Their growth is usually not rapid. They should not occur in the maxilla as this is a membranous bone. The roentgenogram shows an area of osteoporosis. Erosion without expansion is the rule. All cartilaginous lesions of the jaw should be treated radically.

Ewing's sarcoma of the jaw is histologically similar to Ewing's sarcoma found in the long bones. Roentgenographically the lesions are not characteristic. The tumor is quite radiosensitive, irradiation causing a marked temporary diminution in its size.

Generalized skeletal diseases which may have their clinical onset in the jaws are Paget's disease, von Recklinghausen's fibrocystic disease, multiple osteitis fibrosa cystica, and multiple myeloma.

The most common malignant epithelial tumors involving the jaw are carcinoma of the antrum and carcinoma of the lip or buccal mucosa invading the mandible. Carcinoma of the lip may enter the mandible by way of the lymphatics through the mental foramen.

LOUI T BYARS M D

EYE

Lamb H D The Pathogenesis of Some Intra Ocular Osseous Tissue True Metaplasia in the Eye *Am J Ophth* 1935 18 409

Bone formation in eyes involved by inflammation of long standing occurs within connective tissue derived from retinal and ciliary body pigment. The connective tissue is sclerosed and poorly vascularized but has near tissue with a good blood supply. Metaplasia includes transformation of one type of tissue into another and the production of tissue by cells which normally produce tissue of another kind. The author describes eyes with changes from pigmented epithelial cells of the ciliary body and retina to fibroblasts.

VIRGIL WESCOTT M D

Lagrange H The Pathogenic Problem of So-Called Critical Allergic Conjunctivitis *Brit J Ophth* 1935 19 47

Spring or vernal conjunctivitis was for years grouped with infectious conjunctivitis. Beginning in 1846 Arlt, Desmarres and von Graefe reported cases differentiating vernal from infectious conjunctivitis. Terson considered these forms associated with arthritis while Angelucci attributed them to a lymphatic constitution. In 1872 Saemisch called attention to the periodicity of the disease. Schrieber concluded that the flowering season of grasses was an essential factor in exacerbations of the signs of irritation. Many attributed the condition to sunlight. Experiments on sensitized animals have proved that proteins instilled into or beneath the conjunctiva give rise to anaphylactic reaction. In 1911 the author reported a case of conjunctival reaction in a patient with diabetes and another in a patient with myxedema and ovarian insufficiency. In 1928 he described vernal conjunctivitis in children at the prepuberal age.

In conclusion he says: Recent studies have shown the influence of the organovegetative nervous system and of the glands of internal secretion in spring conjunctivitis.

VIRGIL WESCOTT M D

Last M A A Mixed Tumor of the Orbit of the Salivary Gland Type Successful Removal with Preservation of the Eyeball *Arch Ophth* 1935 13 812

The author presents this case because of the unusual character of the tumor and its occurrence with ocular signs due to pressure on the globe.

In discussing this type of neoplasm he states that many of the tumors described as mixed tumors of the lacrimal gland may have had their origin in ectopic salivary gland fetal rests. The mixed tumors of this type apparently originate from rests which represent the anlagen of all three germinal layers but are formed from the unused blastomeres at a later stage than the more complex teratomas or dermoids. Though the anlagen may be distal to the parotid gland they are referred to as parotid rests. Mixed tumors derived from them or having their histological make up have been found in the palate, tonsillar region, trachea, sternoclavicular joint, skin, eyebrow, and upper lid but about 50 per cent appear in the region of the parotid gland.

On the basis of the predominating components these heterotypical tumors have been classified as adenocarcinomas, chondrosarcomas and other types of neoplasms. As a rule they show all the cell types seen in mixed tumors of the parotid. According to Enyng they are more complex in the region of the parotid gland than elsewhere. Those occurring in the extraparotid region usually fall into the group of adenoid cystic epitheliomas or cylindromas. The tumor in the author's case was very complex. The mixed tumors of the caruncle are usually teratomas. The lacrimal gland is a serous type of gland which is classified with the parotid and the mammary glands.

In a review of a large number of the numerous reports of so-called mixed tumors of the lacrimal gland and the descriptions and photomicrographs of the neoplasms the author found that many of the neoplasms were apparently isolated from the lacrimal gland. Some were described as being definitely separated. Van Duyse reported a case in which on removal of the lacrimal gland for epiphora he found a small nodular tumor of the mixed parotid gland type between and distinctly separated from the accessory and the main lacrimal glands. Peters described such tumors as salivary gland mixed tumors of the region of the lacrimal gland.

Intra orbital masses located about the globe may give rise to ocular compression phenomena. Among the latter are limitation of the motility of the globe, exophthalmos, involvement of the nerves of the bulb in their intra orbital course, signs due to pressure on the optic nerve, macular pigmentary changes, detachment of the retina, changes in the axial refractive index, astigmatic changes, and the formation of folds in the retina. Knapp described the occurrence of folds and pigmentary degeneration at the macula due to scleral indentation.

The corrugation folds noted in the case reported by the author were of a straight line type. They closely resembled the isolated broken linear retinal traction folds that are arranged circumferentially at the periphery of the retina soon after cauterization in certain cases of detachment of the retina in which reattachment has taken place. In the latter they are distal to the area of cauterization in the involved retina. The folds seen in cases with scleral indentation and those observed in cases of detach-

part disappear within about three months after operation. Momentary pressure exerted on the sclera with a glass rod apparently does not cause the formation of such folds.

Astigmatism due to bulbar compression is usually associated with myopic or hyperopic changes. Kolak reported a case in which astigmatism of 12 diopters was produced by bulbar compression. It is probable that at least some of the astigmatism is due to the corneal and ciliary-lenticular distortion of the anterior segment. These changes are probably secondary to the posterior bulbar changes.

LESLIE L. MCCOY, M.D.

Bielschowsky, A.: Lectures on Motor Anomalies of the Eyes. IV. Functional Neuroses; Etiology, Prognosis, and Treatment of Ocular Paralysis. *Wet. Ophth.*, 1935, 13: 751.

In the so-called dissociation movements the eyes are not held rigidly as in true spasms. They do not obey the patient's will, but move about irregularly and independently of each other. The supposition that temporary suspension of the association of movements of the eyes can occur merely as a symptom of hysteria is a strong contradiction to all physiological and clinical facts by which the general validity of Hering's so-called law of association of movements of the eye is proved. Dissociated movements occur during coma, narcosis, and sleep, but it is beyond one's volitional power to contract either an individual eye muscle or the muscles of one eye alone. The symptoms adduced as proof of dissociation may be due to heterophoria becoming manifest intermittently when the patient becomes inattentive or to organic disease complicated by hysteria. It may be assumed that in some of the cases reported there was a lack of voluntary impulses because of inhibition of cortical function such as occurs in the hypnotic state. The most characteristic features of hysterical disturbances of ocular movements are their inconstancy and their amenability to treatment by suggestion.

The incidence of paralysis of the trochlear nerve has shown a definite increase. Whereas previous to 1925 only 10 per cent of the author's cases of paralysis were cases of trochlear nerve paralysis, in the last twenty-five years the percentage has increased to 20. The incidence of paralysis of the abducens nerve has remained at about 25 per cent. Bielschowsky attributes the increased frequency of trochlear nerve paralysis to the introduction of Killian's operation and other radical procedures on the frontal sinuses.

Spontaneous recovery occurred in 38 per cent of the total number of the author's cases of ocular paralysis. In the cases of paralysis of the trochlear nerve the incidence of recovery was about 57 per cent in those of paralysis of the abducens nerve, nearly 50 per cent and in those of paralysis of the third nerve those of ophthalmoplegia and those of associated paralysis only 28 per cent. In the majority of cases of paralysis of the fourth and sixth nerves the cause is either a trauma or a tiny nuclear hemorrhage which may be reabsorbed within a short time whereas in the majority of other paralyses the lesion is more serious and in more than 50 per cent of them is due to syphilis or metasyphilis. The possibility of spontaneous recovery is very slight after six months.

Appropriate general measure must be used. Even in obscure cases a cure has been effected by means of diaphoretics, mercury, iodine and other medications. Special measures must be taken for disturbances of the circulatory apparatus.

The local treatment during the first stage is only palliative. Occlusion of the paralyzed eye is often unavoidable for the relief of intolerable diplopia but should not be continued any longer than absolutely necessary. Prisms are of only limited value. Galvanic treatment is of value probably only as a suggestive measure.

Operative treatment may require more than one operation. The paralytic deviation of one eye must be corrected by increasing the efficiency of the paralyzed muscle. It is now realized that the function of a paralyzed muscle cannot be improved by weakening the antagonist of that muscle. The combination of advancement with resection of a variable portion of the tendon is favored for the strengthening of a muscle. Worth's statement that the immediate effect of his advancement operation is the final effect is disputed as the immediate effect of an advancement as well as of every shortening method diminishes in the course of time. A considerable over-correction is desirable.

Landolt's persistent propaganda has discouraged the use of tenotomy in deviation whatever its origin but in absolutely rejecting tenotomy Landolt has gone to the other extreme. The author uses a guarded tenotomy which enables him to modify the result. The disadvantages ascribed to tenotomy are no greater than those sometimes associated with other procedures. The main purpose of operative treatment is to obtain a comfortable binocular single vision in the middle part of the field of fixation so that the normal position of the head is regained. The operation of choice to produce such a result in various conditions is discussed by the author in detail.

EDWARD S. PLATT, M.D.

Kronfeld, P. C. The Histological Appearance of Recent Retinal Tears. *Arch. Ophth.* 1935 13 779.

The author reports a case of idiopathic retinal detachment of short duration in which the eye was removed three months after the detachment.

Within four weeks after the onset of the symptoms several tears were found in this eye. Their size and ragged edges indicated extensive damage by inflammatory disease. An attempt to reattach the retina appeared to be moderately successful, but a sudden strain occurring a few weeks later in an attempt to prevent a fall was followed in a few minutes by the appearance of a new visual defect in the field. The detachment noted at this time extended rapidly, and the patient preferred removal of the eye to another operation of doubtful value.

Kronfeld states that the detachment after the first coagulation may have been the usual downward extension of a detachment in the upper portion or a new detachment. The latter is suggested by the fact that new tears developed in an area which was found normal on ophthalmoscopic examination eight weeks previously and by the patient's own observations which indicated that the new tears and detachment occurred only a few days before the eye was removed. It therefore appears that the histological findings were those characteristic of one of the earliest stages of a tear.

The anterior segment and the lens were normal except for a deep anterior chamber. The ciliary muscle was of the myopic type. Two small groups of lymphocytes were noted near the base of two ciliary processes but there were no other signs of active or inactive iridocyclitis. The ciliary epithelium mainly of the pars plana had proliferated somewhat toward the interior of the eye and into the ciliary body. In two places excrescences had formed but elsewhere the proliferation was slight and not comparable to the extensive hyperplasia of Leber.

The observations made in the field of operation confirmed those of Safar, Fischer and Stallard. The necrosis of the sclera was only partially repaired after two and a half months. The prearcuate of the retinal structure in many places supported Safar's conclusion regarding the relative harmlessness of the short pin electrodes. As in cases reported by others (Nordenson, Kummell, Reddy, Job, Sour, Dillet), the sequelae of inflammatory or serous degenerative processes were seen in the retina and choroid and had weakened the retinal structure so that tears occurred or could have occurred easily. Their actual extent was of course greater than that described in the record of the findings as they were most extensive in the area of operation. The few fresh choroiditic infiltrations seen were not necessarily significant as they are often observed in eyes without retinal detachment. The observations showed clearly how a retinal tear develops from an atrophic retinal lesion resulting from retinoblastoma.

There were two spindle shaped tears, probably of only a few days duration. The cause of these was not clear as there seemed to be only vague signs of previous pathological changes in the region involved. The author believes that there might have been changes mainly in the inner retinal layers which

were either invisible on previous examination or developed during the two months the patient was out of the hospital. He says that if the thickness of the retina at the sites of the tears can be judged from the distance between the edge of the tears in the internal limiting membrane and the edge in the outer nuclear layer, the retina was very thin in those regions before the occurrence of the tears. This indicates that previous changes had occurred, mainly in the inner layers. With regard to the probable cause of these changes, it can be stated only that it was not a primary choroiditis. The effects of other possible factors, such as a pulling action by the vitreous, ocular movements, a shrinking process within the retina itself, or a disturbance of hydrostatic pressure equilibrium, cannot be evaluated.

EDWARD S. PLATT, M.D.

Baer, B. F., Jr., and Shipman, J. S.: Retinal Detachment. *Pennsylvania M. J.*, 1935, 38: 475.

The authors have operated upon twenty-two cases of retinal detachment. In six cases multiple trephination of the sclera with potassium hydroxide coagulation was done and, in three of these six, Weve diathermy needles were used in addition to the trephines. Of this group, a successful result was obtained in only one and improvement in only one. In sixteen cases the treatment consisted exclusively of electrocoagulation. Of this group, a successful result was obtained in seven and improvement in three. Of the total number of cases, a successful result was therefore obtained in eight (36.3 per cent). One of the operations with a successful result was performed only about six weeks before this report was written. In three cases the retina remained in place, with good vision and a full field, for a month, but then became detached again. These cases are classified as showing no improvement.

Retinal tears were found in only 31.8 per cent of the cases even though a repeated and careful search was made for them. Of the seven cases in which tears were found, a successful result was obtained in three, and of the fifteen cases in which a tear was not found, a successful result was obtained in five. The authors doubt the often repeated statement that a tear will always be found if a sufficiently careful search is made. They state that success may be achieved in some cases in which a tear is not discovered. In their cases in which tears were found no technical method was used to localize the tear. The axis in which the tear appeared was determined and its distance from the disk was estimated in disk diameters. Eight millimeters were allowed from the limbus for the ciliary body. In all cases in which a tear was seen and an attempt made to circumscribe it, the attempt was successful. This was proved by looking into the eye with the ophthalmoscope after the operation.

The authors conclude that the best hope of obtaining a successful result in detachment of the retina is offered by electrocoagulation with either the Safar or the Walker needles.

LESLIE L. MCCOY, M.D.

Vázquez-Barri re, A.: The Surgical Treatment of Detachment of the Retina (El tratamiento quir rgico del desprendimiento de la retina). *Arch. uruguayos de med., cirug. y especial*, 1935, 6: 1.

The author discusses the various methods of surgical treatment of detachment of the retina. He states that the choice of method to be used must depend upon whether a single small tear, a single large tear, several small tears, or no tear is found.

He believes that for cases with a single small tear which is readily accessible Gonin's method of closing the tear with the actual cautery is best, but many ophthalmologists prefer the electrical cautery as producing less trauma and being more readily controlled. He does not agree with Gonin that the laceration is the primary cause of the detachment of the retina, but believes that it is an obstacle to permanent re-attachment of the retina as it causes an inversion of the current of the eye fluid and maintains the same pressure on both sides of the retina. Occlusion of the tear is necessary to restore the normal condition in which the pressure is greater on the side of the vitreous. Instead of Gonin's method of heat cauterization, Sourdille uses a very fine galvanocautery and recommends very shallow and very brief cauterization. For cases of detachment at the ora serrata Weve recommends trans-scleral diathermy coagulation.

In cases with a single large tear it is well to block the tear by creating a row of adhesions around it either by diathermy puncture or the chemical cauterization of Guist.

The author reports seventeen cases in which he performed the Gonin, Weve, Sourdille, and Guist-Lindner operations. He states that cure is to be judged as much, if not more, from restoration of the normal visual fields as from increased acuity of vision. Ophthalmoscopically, cure is shown by total re-attachment of the retina. Cure cannot be considered definite until at least six months have elapsed as recurrences are apt to occur within that length of time. According to these criteria, cure resulted in five of his cases and improvement in three. One patient is still under treatment. In four cases further operations were necessitated by hemorrhage or opacity of the vitreous. Two of the patients would not accept a second operation and two were lost from observation. Needless to say, the treatment should include the treatment of any general disease to which the detachment may be secondary, such as tuberculosis, syphilis, or albuminuric retinitis.

AUDREY GOSS MORGAN, M.D.

Lauber, H.: The Formation of Papilledema. *Arch. Ophth.*, 1935, 13: 733.

Papilledema is one of the most important signs of intracranial as well as ocular pathological change. As long as the alterations in the disk are limited to edema there is only slight functional disturbance, which is evidenced by enlargement of the blind spot. Other functional disturbances occurring in the early period of papilledema are to be attributed to the

condition causing the papilledema itself. Tumors, abscesses, hydrocephalus and other diseases can cause both visual disturbances and papilledema.

Various theories and experimental investigations regarding the development of papilledema are discussed, and a study of the relation of intracranial pressure to retinal arterial and venous pressure is reported.

According to the findings of the author's study retinal venous pressure is intimately related to the intracranial pressure. An increase in the latter causes an immediate increase in the former. If the intracranial pressure is below 250 mm. of water, the error does not exceed 4 mm. Hg. and if the intracranial pressure is above 250 mm. of water the error is less than 3 mm. Hg. In all of the author's cases of increased intracranial pressure the diastolic arterial pressure was increased whether papilledema was present or not, but this correlation can be of value only when the general blood pressure and the vascular system are normal. It therefore does not allow any approximate determination of the intracranial pressure. Measurement of the retinal venous pressure with the ophthalmodynamometer is a sufficiently exact method for the determination of intracranial pressure. This method is of value when examination of the spinal fluid is unnecessary or as in cases of tumor in the posterior cranial depression lumbar puncture may be dangerous. Its reliability has been proved by the author in ninety three cases.

Clinical observations and experimental results tend to show that obstruction to the venous circulation in the optic nerve is an important factor in papilledema. Pressure in the intervascular spaces of the optic nerve is increased when the intracranial pressure rises and the accumulation of cerebrospinal fluid between the sheaths of the optic nerve is necessary for the occurrence of papilledema. This is proved by the syndrome described by Kennedy and by cases reported by others.

EDWARD S. PLATT, M.D.

EAR

Costen J. B. A Group of Symptoms Frequently Involved in General Diagnosis Typical of Sinus and Ear Disease and of Mandibular Joint Pathology. *J. Missouri State M. Ass.* 1935 33 184

Costen states that headache and ear symptoms directly dependent upon functional disturbances of the mandibular joint frequently occur in cases showing sufficient pathological change about the sinuses to account for them. Because of the multiplicity of medical, rhinological and ophthalmological causes of headache about the ears, vertex and occiput and the multiplicity of nasal changes that may lead to eustachian tube obstruction the possibility that evulsion of the condyle of the mandible from overbite is responsible is often not considered.

Hearing tests reveal a mild type of catarrhal otitis with eustachian tube involvement, usually

simple obstruction. This is due to pressure on the anterior membranous wall of the tube transmitted through the soft tissues from relaxation of the pterygoid muscles and associated sphenomandibular ligaments during overbite.

The promptness with which the condition of the ears improves seems to prove the theory that the ear involvement is due to trauma or concussion of the labyrinth or tympanic structures by the condyle of the mandible. Cases of shock to the labyrinth from a blow on the chin are not within the scope of the author's discussion.

Attacks of dizziness in these cases are due obviously to changes in intratympanic pressure affecting the labyrinth. The effect is transient and recurrent and is relieved by inflation of the eustachian tube. The picture is not that noted in toxic labyrinthitis.

The headache is similar to the headache of posterior sinus origin and is easily mistaken for the latter. Persistence of headache after indicated sinus surgery is sometimes due to pathological changes in the mandibular joint.

At first the symptoms are due to overaction of the joint. Later there is added the regional effect of looseness of the joint due to absorption of the meniscus condyles and surrounding bone.

Analysis of thirty-one cases indicates that ear symptoms predominate in edentulous mouths in which the symptoms develop slowly, whereas pain with or without herpes of the external canal and buccal mucosa predominates in cases of natural malocclusion or malocclusion from loss of molar support on one side only.

The prognosis in a given case depends on (1) the accuracy with which refitted dentures relieve abnormal pressure on the joint and the increase in the vertical dimension keeps the moving condyle out of range of the dura, chorda tympani and auriculotemporal nerves and (2) the extent of injury to the tube, condyle, meniscus and joint capsule.

Anatomical reasons are advanced to account for the abnormal condition of the eustachian tube and the distribution of pain toward the vertex, occiput, pharynx and tongue. Further proof as to cause and effect is afforded by twenty cases cited in addition to the first group. In all of these cases some or all of the various symptoms were relieved by repositioning the jaw.

It is barely possible that disease of the mandibular joint may be an etiological factor in glossopharyngeal neuralgia, the association of the chorda tympani and auriculotemporal nerves with the ninth nerve occurring by way of sensory connections to the otic ganglion.

In one case the constant appearance of herpes at the time of the pain attacks suggested this close association. Herpes occurred also in eight (25 per cent) of the cases previously observed. It is unilateral and distributed upon the mucosa of the tongue, hard palate and cheek and external canal of the ear. It disappears when the jaw is repositioned and headache relieved. It may be included

definitely among the symptoms associated with functional disturbances of the temporomandibular joint

JAMES C BRASWELL, M D

MOUTH

Bruhn, W.: Varices of the Tongue (Ueber die Varicen der Zunge). *Arch f path Anat*, 1934, 294: 27.

The author reports on eleven cases of oral varices recorded in the autopsy records of the Rostock Clinic. In four cases the base of the tongue was involved. In the older patients, the margins and the inferior surface of the tongue also showed varices. Histologically, the findings were the same as varicose veins in other parts of the body: phlebectasias and varicosities. In half of the cases there were ruptures of vessel walls and hemorrhages into contiguous tissues, and thromboses were frequent.

The primary causes are to be sought in senile atrophy of the veins and in natural weakening of the circulation in the base of the tongue, the site of the poorest circulation in the oral cavity. A secondary cause is increased pressure in the veins. The author found no proof that nicotine or alcohol exerts an influence.

(HINRICHSSEN) MATHIAS J SEIFERT, M D

Korff, A.: Primary Tuberculosis of the Tongue (Die primäre Zungentuberkulose) 1934. Muenster, W., Dissertation.

Tuberculosis of the tongue is rare. It occurs most frequently in men between the ages of thirty and fifty-five years. The author reports the case of a man fifty-two years of age who had a tubercle the size of a lentil on the tip of the tongue. The tissue surrounding the nodule was red. The nodule was of firm consistency and not ulcerated. There was no palpable enlargement of the regional lymph glands. The tip of the tongue was painful when food came into contact with the nodule. The condition had been present for over six months. At first, a tumor was suspected, especially as tuberculosis of other organs of the body could be excluded. The involved tissue was completely removed and examined histologically. Tuberculosis of the tongue was evidenced by numerous epithelioid-cell tubercles with giant cells. The patient made an uneventful recovery.

According to the clinical course and the findings of examination, the tuberculosis was primary in the tongue. The cause of its development could not be determined with certainty. However, as in most cases of lingual tuberculosis, contact infection was to be assumed.

The best treatment of lingual tuberculosis is radical removal. The value of radium and X-ray treatment is not yet known. The dosage has not been determined satisfactorily, particularly because the therapeutic dose varies considerably in the cases of different patients. Many of those writing on tuberculosis of the tongue warn against X-ray treatment. Cauterization has sometimes resulted in cure.

(H VILTHIN) CLARENCE C REED, M D

PHARYNX

Kully, B. M.: Cysts and Retention Abscesses of the Nasopharynx. A Report of Eighty-Eight Cases. *J Laryngol. & Otol*, 1935, 50: 317.

The author states that the diagnosis of retention cyst of the nasopharynx requires the direct inspection of the nasopharynx and palpation with the probe under direct vision. Indirect inspection with the post-nasal mirror gives an inadequate picture because, the plane of the posterior wall of the nasopharynx being almost at right angles to the plane of the examining mirror, there is a marked foreshortening of the image with some obliteration of details, and because the mucus frequently present on the nasopharyngeal wall changes the angle of reflection, thereby adding to the distortion of the image and masking details. The contour of the nasopharynx is an important consideration in the diagnosis.

The Holmes nasopharyngoscope used transnasally is of more value in the examination of the lateral and superior walls than in the examination of the posterior wall. As the image seen is almost at right angles to the long axis of the instrument, there is a circular blind spot out of the line of vision directly ahead of the instrument. The blind area includes the posterior wall and often the posterosuperior angle. Small cysts of the angle will therefore be overlooked. Kully has tried to overcome this difficulty by using an electric urethroscope with the image directly in front of the instrument. The area seen in one image is too small for proper perspective.

The Hays pharyngoscope and its later development, the glottoscope, give excellent illumination of the nasopharynx. Although, as with the mirror, the image is foreshortened, their use is an excellent adjunct to direct inspection.

Direct inspection of the nasopharynx is made with the aid of an instrument that retracts the palate. For this purpose a variety of palate retractors, some of which are self-retaining, have been devised. Bech devised a method in which the palate is retracted by means of rubber tubes introduced into the nostrils and brought out of the mouth. Kully has found the direct speculum of Yankauer the most satisfactory. This causes minimal discomfort and can be employed without anesthesia if desired. It shows all the structures of the nasopharynx, including the fossa of Rosenmuller and the eustachian orifice. Kully has used it for examination and probing and usually also for operation in the conditions he discusses.

In the cases reviewed the picture most frequently observed was that of a smooth bulging in the vault of the nasopharynx, usually central but occasionally lateral. The mucosa covering this bulging was smooth and with few exceptions presented an area of gray or yellow translucence where the swelling was most marked. Occasionally a drop of yellow or milk-colored pus was seen exuding from it. On puncture with the probe or knife, a purulent secretion was invariably obtained. In some cases there

was no bulging but the presence of a yellow or gray area in the mucosa gave evidence of an underlying suppuration which was later revealed by the probe.

In other cases the picture was that of a central adenoid mass with secretion exuding from one of the longitudinal clefts, usually the central cleft. In some cases the purulent pocket was discovered only on separation of the folds with the probe. In a few, the entire central portion of the adenoids had been displaced by the cysts. In none of the cases was the clinical diagnosis considered complete until the cavity had been entered and secretion had been obtained.

JAMES C. BRASWELL, M.D.

NECK

Borak J. The Treatment of Hyperthyroidism by Roentgen Irradiation of the Pituitary Gland. *Radioogy* 1935 4 531

After reviewing recent additions to our knowledge regarding pituitary thyroid interactions the author states that in the last ten years he has treated thirty-six cases of hyperthyroidism by X-ray irradiation of the pituitary gland with favorable results in twenty-five cases. In some of the latter the thyroid had been treated by X-ray irradiation previously without a beneficial effect. Good results were obtained from irradiation of the pituitary gland almost uniformly in women in whom the hyperthyroidism had come on after the menopause. The author reports a few of the cases.

PALL STARR, M.D.

Frazier C. H. and Johnson, J. End Results of Thyroid Surgery. *Ann Surg* 1935 101 1195

At the hospital of the University of Pennsylvania 665 patients were operated upon for thyroid disease in the period from 1927 to 1932. Response to iodine was the same in diffuse and nodular toxic goiter.

Of 467 patients operated upon for diffuse toxic goiter 363 are considered well, 44 have a normal metabolic rate but persistent symptoms, 11 have permanent partially disabling visceral damage, chiefly cardiac, and 2 require small doses of thyroid extract. Thirty-one had residual toxicity and 16 developed toxicity after the operation. Of the 47 postoperative toxic cases 16 were controlled by iodine, 12 by roentgen irradiation and 7 by reoperation. Nine of the patients were not co-operative. Three were still toxic after iodine and roentgen treatment and 1 was still toxic after roentgen treatment and reoperation.

Of the 163 patients operated upon for nodular toxic goiter 141 were cured, 15 had residual symptoms, 4 had residual visceral damage, 2 were hypothyroid, none had residual toxicity and only 1 had recurrent toxicity.

PALL STARR, M.D.

Hirsch C. Tuberculosis of the Larynx. *Laryngoscope* 1935 45 209

Hirsch states that tuberculosis of the larynx is the most frequent complication of tuberculosis of the

lungs. The reported frequency of laryngeal involvement has ranged from 36 to 97 per cent depending upon whether the findings were made in the dissecting room of a hospital or at a laryngological clinic. It may be assumed however that tuberculous changes in the larynx are discovered during life in from 25 to 30 per cent, and at autopsy in more than 50 per cent of cases of pulmonary tuberculosis. Laryngeal tuberculosis is slightly more frequent in men than in women. Occupation is an important factor in its development. Heavy strain does not lead to the condition.

The origin of laryngeal tuberculosis is still disputed. The author believes that while tubercle bacilli may enter the larynx in the sputum or by way of the blood or lymph stream, laryngeal infection is caused most often by the sputum. He states that the larynx offers more favorable conditions for the settling of tubercle bacilli than other part of the upper air passages because of the arrangement of its lymphatic vessels. These vessels are particularly sparse in the adult. Other factors of importance in the development of laryngeal tuberculosis are the resistance of the body as a whole and the local defensive power of the larynx. In more than 90 per cent of all cases of laryngeal tuberculosis the sputum contains tubercle bacilli. The author states that although very serious tuberculosis of the larynx may be found with minimal pulmonary tuberculosis and vice versa, the old Gidonsen theory that extensive tuberculosis is not essential in the pathogenesis of tuberculosis of the larynx does not seem credible.

In the acute beginning of the disease the picture is often that of a purely exudative tissue reaction but in the great majority of cases a productive component is recognizable. As yet the conditions for the preponderance of exudative or productive activity have not been completely ascertained. The exudation occurs into the interstitial spaces where at first it cannot be distinguished from a non-specific inflammatory reaction if the productive elements are lacking.

The clinical manifestations of tuberculosis of the larynx are of the following four types: (1) infiltration (including milium nodules on the surface), (2) ulceration, (3) perichondritis and (4) tumors.

Infiltration is characterized macroscopically by the signs of inflammation—increased substance and reddening of the diseased tissue. At the posterior wall of the larynx there is either a lumpy or a flat thickening which may interfere with closure of the glottis. The epiglottis has a puffy plump appearance and the vocal cords seem to be swollen to a spindle shape or are totally thickened. The first tubercles protrude close to the mucous membrane, the epithelium of which may be entirely intact. The tuberculous infiltration does not always show a nodular structure; frequently it is rather diffuse.

In the permeation of a tissue by tuberculosis, a melting down of the tissue may occur beneath the epithelium and after complete destruction of the

overlying epithelium the tuberculous tissue may be exposed on the surface as a tuberculous ulcer

Tuberculous perichondritis is usually the result of a deep ulcer in the mucous membrane, but in some cases may develop without ulcerative changes

By "tuberculoma" is meant a macroscopically tumor-like product of tuberculosis which is in contrast to diffuse tuberculous infiltration

The first symptom of tuberculosis of the larynx is usually a slight feeling of pressure and irritation of the throat. Frequently the patient complains of dryness and burning. There is a certain roughness of the voice, and he tries frequently during the day to free the vocal cords by strong clearing of the throat. The voice tires easily in conversation. As the tuberculous process advances, destruction of cartilaginous tissue may take place. The patient feels pain on swallowing and may refuse to take food.

In infiltration there is almost always an increase in substance which strikes the eye by its redness and may be differently shaped according to its location. The edemas which appear in laryngeal tuberculosis are found chiefly on the epiglottis, the aryepiglottic folds, the arytenoid cartilages, and the vocal folds. In addition to the infiltration there are defects of the epithelium. The diagnosis of these defects may sometimes be facilitated by painting the suspicious parts with a 2 per cent solution of fluorescein, which causes ulcerations to take a greenish stain while the intact mucous membrane remains unstained.

An especially mild form of tuberculosis of the larynx is lupus.

The treatment of laryngeal tuberculosis includes general and local treatment. The general treatment is the same as the general treatment for tuberculosis of the lungs. In many cases a change in the patient's occupation may be advisable. Constant contact with dusty air may favor the development of laryngeal tuberculosis by causing constant irritation of the laryngeal membranes. Patients who are forced to talk a great deal and with great effort should seek an occupation in which fewer demands are made upon the larynx.

Strongly spiced food should be avoided. When swallowing causes pain, only liquid and soft food should be taken. Drinks should be neither too cold nor too hot. The author has been unable to determine whether patients kept on the Gerson diet for a long time recover more quickly than others or not. Of special value in the treatment of laryngeal tuberculosis is vocal rest. Not only loud talking, but also whispering should be prohibited. The prevention of coughing is of special importance.

In the local treatment the application of a 5 to 10 per cent solution of mentholated oil has proved especially beneficial. With the patient phonating, the larynx erected, and the trachea protected by the closed glottis, 1 or 2 c. cm. of the oil are injected under control of the laryngeal mirror. Chaulmoogra oil injected in the same manner and quantity may also have a beneficial effect. Many laryngologists paint ulcerous processes with a 30 to 80 per cent

solution of lactic acid. Treatment with tuberculin is no longer widely used in cases of laryngeal tuberculosis.

The surgical treatment of laryngeal tuberculosis has undergone many changes. Formerly, tracheotomy and thyrotomy were frequently done for radical removal of the diseased parts. Occasionally, total extirpation of the diseased larynx was performed, but today this method has been generally abandoned. In some cases a slight curettage or treatment with the galvanocautery produces a psychic trauma from which the patient recovers with great difficulty. When the general resistance is good, even advanced tuberculosis of the larynx can be operated upon successfully, but when the general resistance is poor the use of the galvanocautery on even a small local ulcer may be dangerous. All laryngeal operations may be done under local anesthesia. For the best possible anesthesia of the larynx it is advisable first to block the superior laryngeal nerve bilaterally. After this is done the patient will be only slightly disturbed by painting of the larynx with an anesthetizing solution. The surface anesthetic used by the author is a 2 per cent solution of pantocain.

Circumscribed foci of tuberculosis, tumor-like and papillary excrescences, and granulations on ulcers are best removed by curettage followed immediately by the use of the galvanocautery. Besides destroying the tuberculous tissue, the galvanocautery stimulates strong cicatrization. The surgical treatment of tuberculosis of the epiglottis consists mainly, especially in advanced cases, of amputation of the epiglottis. This can be done with either the Schmidt or the Jurasz forceps, the Alexander guillotine, or the hot or cold snare. In electrocoagulation of the tuberculous larynx great care is necessary. The procedure may be followed by postoperative edema.

Extralaryngeal operations are today avoided whenever possible in tuberculosis of the larynx. Curative tracheotomy may be considered only in cases of very serious laryngeal tuberculosis in which the lungs are affected very slightly and in cases with very serious dyspnea. Extirpation of the tuberculous larynx is an extremely serious operation. Cases of tuberculoma which cannot be treated endolaryngeally may require thyrotomy. Leichsenring conceived the idea of blocking the recurrent nerve by alcohol injections. The paralysis of the nerve thereby produced lasts for about four weeks.

Ultraviolet light has been used for thirty years. The direct rays from the sun, carbon arc lamp, and the cold quartz lamp have been employed in laryngeal tuberculosis with distinct benefit. It is usually necessary to supplement this treatment with local treatment.

Lymphocytic and leucocytic elements are radio-sensitive, being destroyed by very small doses of X-ray irradiation. Therefore the development of the connective tissue after X-ray treatment is based on the breakdown of the lymphocytes, which is supposed to stimulate cicatrization. X-rays produce a

stronger reaction at the site of the disease than any other unspecific stimulant. Roentgen irradiation is indicated in all chronic progressive stationary, latent and productive forms of laryngeal tuberculosis and contra-indicated in all acute progressive progressive exudative and mixed forms and all forms accompanied by stenosis and by serious disturbances of the general condition.

While opinions differ as to the strength of the X-ray dose to be used, Hirsch believes that the optimum dose may be assumed to be between 5 and 10 per cent of the skin erythema dose.

The treatment is given best with a Coolidge tube, a focus-skin distance of 24 cm., from 10 to 5 ma. of current, a tube tension of 160 kv. and filtration with 4 mm. of aluminum or 0.5 mm. of copper and 1 mm. of aluminum.

The best results from homogeneous treatment of the entire larynx are obtained by means of crossfire.

The structure of the throat makes it possible to reflect the rays upon the entire larynx from two or three fields and from both sides and to direct the central rays so that they meet the tuberculous larynx with considerable certainty.

As the larynx of women is more sensitive to the X-rays during menstruation, it is advisable to interrupt the treatment during the menstrual periods.

Not much is known as yet regarding the effectiveness of radium in the tuberculous larynx. The best reactions are shown by circumscribed infiltrates, especially on the posterior wall of the larynx. Good reactions in ulcerations are more difficult to obtain.

Dysphagia is best controlled by the use of dysphagine, a combination of tutocain, anesthetic and menthol. If this is unsuccessful, the induction of anesthesia of the superior laryngeal nerve by the injection of alcohol is necessary. The author injects 1 c. cm. of an 80 per cent solution of alcohol with 1 per cent procain into the superior laryngeal nerve before its passage into the cricothyroid membrane. To prevent the aspiration of saliva and food, it is best to avoid injecting both nerves on the same day. The anesthesia generally lasts for four weeks and may be repeated as desired.

It is well known that tuberculosis of the larynx is more strongly influenced by pregnancy than tuberculosis anywhere else in the body. Interruption of the pregnancy has a favorable effect on the condition only, if it is done early enough, that is, within the first three months.

The prognosis of laryngeal tuberculosis is doubtful. It must be borne in mind that the laryngeal disease is only a part of a systemic tuberculous condition.

ELI ABETH CRANSTON.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL NERVES

Toennis: Neurosurgical Remarks Regarding the Treatment of Injuries of the Skull and Their Late Sequelæ (Neurochirurgische Bemerkungen zur Behandlung von Schädelerletzungen und ihrer Späetfolgen) *Arch f orthop Chir*, 1934, 35 29

The author reports two cases of subdural hematoma with an unusual clinical course and neurological findings. Both were cured by operation. In one, a torn vein, a branch of the right Rolandic vein, was the source of the hemorrhage.

Toennis next describes a method of treating late traumatic epilepsy. He disapproves of filling the cavity created by excision of the scar with fat. In the procedure he describes, periosteum is sutured to the border of the dura and the defect in the dura is not repaired. In cases of small bony defects, the bone around the defect is cut out with a saw in the form of a flap which is later replaced and fixed with wire sutures. In cases of large defects, the flap of skin and aponeurosis is placed directly over the defect without the previous transplantation of fascia. In the first case in which this method was used, which was operated upon two years ago, the results to date have been better than those of the transplantation procedure.

(WANKE) WILLIAM C BECK, M D

Wanke: The Treatment of Open Skull Injuries and Their Results (Ueber die Behandlung offener Schädelerletzungen und deren Ergebnisse) *Arch f orthop Chir*, 1934, 35 24, 31

Wanke discusses the results of the treatment of open skull injuries on the basis of 169 cases. He reviews the various types of such injuries, their course, and their dangers. He states that opinions differ as to the proper treatment chiefly because no extensive reports on open skull injuries have been published since the world war.

Skull injuries sustained in civil life have a considerably more favorable prognosis than skull injuries sustained in warfare because they come earlier under medical treatment and the primary wound treatment described by Barany, which is essentially the application of the Friedrich procedure to wounds of the skull and brain. The injury is followed immediately by general swelling of the brain and cerebral edema which threaten so-called primary prolapse. The latter complication is combated more easily and more safely by closed treatment. Much more serious is the local reaction, the softening of the focus of injury with danger of infection. In the beginning there is danger of acute and usually fatal suppurative meningitis, and later of septic softening with secondary

so-called malignant prolapse which often leads to secondary meningitis by ventricle perforation and, after weeks, months, or years, to the formation of a brain abscess. The meninges have a tendency toward acute infections, and the brain tissues toward latent chronic infections. When the closed treatment is used these complications are less frequent. Heretofore, follow-up investigations regarding the late results of the Barany method were neglected. These are found to be entirely satisfactory.

The cases reviewed by the author include cases which were treated by partial suture and the use of a drain or tampon. Most of them were treated before or during the world war. The results of this method of treatment were decidedly less favorable. Nevertheless they were better on the whole than was to be expected, especially on the basis of the experiences in the war. In cases of open bone and dural injury without involvement of the brain the incidence of permanent recovery with restoration of the ability to work is 50 per cent, whereas in cases of open injury of the brain it ranges from 20 to 25 per cent.

(WANKE) LOUIS NEUWELT, M D

Reichardt: Concussion and Contusion of the Brain (Hirnerschütterung und Hirnquetschung). *Arch f orthop Chir*, 1934, 35 7, 31

Reichardt made a detailed study at autopsy of the brains of fifty persons who sustained a brain injury and died a number of years later of late effects of the injury or other causes. From this study extremely valuable information was obtained.

Reichardt emphasizes that concussion and contusion differ from one another distinctly, both clinically and anatomically. Concussion is present only when a disturbance of consciousness begins immediately after the accident. It is a clinical syndrome which is apparently localized insofar as the mid-brain, the medulla oblongata, and the cerebellum are concerned. A pathological anatomy of concussion is not known. The condition is a special type of organic reaction by the brain. The diagnosis is merely provisional at first. Concussion may be the only effect of the injury upon the brain. Under such conditions the prognosis is always favorable. In other cases it may accompany traumatic changes which are far more difficult to judge. Late changes in the brain after concussion cannot be demonstrated. The author has not seen any cases of internal hydrocephalus following concussion. The late diagnosis during life of a permanent traumatic injury of the brain due to contusion is a simple matter when neurological symptoms persist. However, such symptoms are frequently absent. Under such circumstances, a subsequent psychopathological examination will often confirm the diagnosis.

sufficiently Of great importance is a careful analysis of the *subjective complaints at the time of the late examination as well as of the acute subjective disturbances occurring soon after the injury* These have received too little consideration

Confusion of the brain is strongly suggested by
1 Disturbances of consciousness persisting for weeks in the absence of a concussion psychosis

2 Severe early organic hyperirritability during the disturbance of consciousness

3 Epileptiform attacks during the acute stage of the disturbance of consciousness 4 Differential diagnosis must be made from hemorrhage into the meninges

4 Incongruities between the loss of consciousness and true organic stupor Stupor persisting for days is suggestive of brain contusion even when consciousness is lost for only a short time

5 An uncharacteristic gradually increasing picture of cerebral pressure in the acute stage A differential diagnosis must be made from cerebral compression

6 The lucid interval A differential diagnosis must be made from compression a harmless fainting spell and an exaggerated psychic reaction

7 The character of the accident An object travelling at high speed and striking the head at a small localized spot may cause a severe permanent traumatic injury of the brain without producing definite evidences of brain concussion

Heretofore systematic clinical and anatomical studies to aid in the differential diagnosis particularly of permanent traumatic brain injury have been lacking These should include careful observation and recording of the acute symptoms The importance of the latter should receive more emphasis in medical education Better judgment of skull and brain injuries is essential This is a particular duty of the industrial associations who at times make use of questionnaires An exact differential diagnosis between concussion and confusion is of both scientific and practical importance A basic separation of the two conditions seems justified
(WATKINS) JOHN W BRENNAN M D

Glaser M A and Shafer F P Epilepsy Secondary to Head Injury Arch Surg 1935 30 783

Trauma to the head is a well known cause of epileptic seizures but its relationship to epilepsy in a given case may be difficult to determine Four questions of importance in the study of generalized traumatic epilepsy are discussed

1 Did the head injury cause the epilepsy?

2 After a head injury how far may one go in prognosticating the development or non development of epilepsy?

3 Is there any method of preventing the occurrence of this sequel?

4 Is there any method of therapy to be advised for generalized traumatic epilepsy?

Epilepsy secondary to trauma may be divided into 4 types (1) focal epilepsy (2) generalized epileptic

states including both grand mal and petit mal (3) hysterical epilepsy and (4) reflex epilepsy The differentiation is not always absolute There is seldom any question regarding the etiological role of the preceding trauma except in cases of generalized convulsions The authors deal chiefly with general convulsions but discuss the 3 other types briefly

A review of 300 articles resulted in the collection of 65 satisfactory case reports To these the authors add the records of 7 cases They found a great difference in the reported incidence of convulsions following trauma The highest was 25 per cent reported by Rawling Careful analysis of the articles indicates that after the more severe head injuries the most probable incidence is about 25 per cent Early convulsions must be associated with severe injury to the brain Any case in which epileptic seizures of the generalized type develop within a period of several weeks after a minor injury should immediately be excluded from the post traumatic group In all of the reviewed cases in which generalized epilepsy developed the injury was of great severity Generalized epilepsy may develop within the first ten days, providing the head injury is extremely severe Fracture of the skull or loss of consciousness for a relatively long period occurred in all the reviewed cases None of the patients had merely a slight laceration of the scalp Except in the cases in which they developed in the first ten days the generalized seizures usually developed from six months to two years after the injury Less frequently post traumatic epilepsy developed from two to seven years after the injury and only infrequently from seven to twenty years after injury

In attributing the epilepsy to trauma all extraneous factors must be ruled out particularly a history of convulsions prior to the trauma In cases in which the first convulsion occurs at the time of the injury it is necessary to make certain that the injury did not occur as the result of an attack of idiopathic epilepsy Convulsions developing in the first six months after minor head injuries should be considered of psychoneurotic origin

All of the pathological changes which have been observed are secondary to hemorrhage The late effects are dependent upon degenerative adhesions or glial proliferation If these changes were the cause of the convulsions there would be many more cases of epilepsy Epilepsy occurs in only a small percentage of cases of severe types of injury In 1933 Sauerback reported that in animals subjected to injury of the motor cortex milder doses of cocaine were required to produce convulsions than in normal control animals It is therefore likely that a head injury sensitizes the brain so that extraneous circumstances may more readily produce convulsions

There is no method of preventing the occurrence of epilepsy other than the accepted method of treating the original injury

Unless there is a special contra indication encephalograms should be made in every case of post

traumatic epilepsy as they may have definite therapeutic value. They may give information of value with regard to further treatment, in some cases indicating that open operation should be performed.

FRANCIS S. PRATT, M.D.

Rugiero, H. R.: The Thalamic Syndrome (Síndrome talámico). *Seminario Med.*, 1937, 42: 521.

Rugiero reviews the anatomy and physiology of the thalamus and the histological development, symptoms, and differential diagnosis of the thalamic syndrome. He refers to the five cases previously reported from the Argentine and adds a case of his own. In the latter the outstanding feature was absence of the typical Déjerine-Roussy syndrome although the entire left thalamus was destroyed by a small cell glioma. Sensory disturbances were limited to diminution in all modalities, and spontaneous or provoked pain was absent throughout the two years' course of the disease. Motor disturbances (weakness and contractions in the right arm and leg and dysarthria) predominated. The patient became markedly demented. There was atrophy of the penis and testicles with the development of fat in the pubic region. In addition to the thalamus, the tumor involved the ventricular wall and, to some extent, the subthalamus region.

The author discusses briefly the reason for the absence of sensory disturbances and queries whether it was due to complete interruption of the sensory fibers. He states that the mechanism of pain perception involves numerous factors not yet understood. Individual modes of reaction and interpretation of sensations are very important for the occurrence of the symptom. Apparently, destruction of the thalamus is only one of the multiple causes of sensory disturbances. In a few cases of thalamic lesion, verified by autopsy, pain was absent. The clinical deduction is that in an atypical syndrome of brain tumor with hemiplegic symptoms the absence of anesthesia and pain is not sufficient to exclude the presence of a lesion limited to the thalamus.

The article contains illustrations and is followed by a bibliography.

M. L. MOORE, M.D.

Lev, A.: A Contribution to the Study of Intracranial Tumors of Mesenchymatous Origin, with the Report of Two Cases of Fibroblastoma of the Cerebral Hemispheres in Children Under Five Years of Age (Contribución al estudio de los tumores intracraniales de origen mesenchimatosos, con aportación de dos casos de fibroblastoma de los hemisferios cerebrales en niños menores de cinco años). *Rev. de cirug. de Barcelona*, 1935, 5: 9.

In early childhood tumors of the cerebral hemispheres are very rare, most tumors at this age being subtentorial. In a study of fifty-five cases of cerebral tumor in children under five years of age, the author found that only 8 (14.6 per cent) of the neoplasms involved the cerebral hemispheres. Three (37.5 per cent) of the latter were of mesenchymatous origin.

Lev reports two of the cases of tumor of mesenchymatous origin in detail and shows the histological findings by photomicrographs. The first was that of a child three years old and the second that of a child four and a half years old. Both tumors were fibrosarcomas. The first tumor originated from the leptomeninges and invaded the brain substance secondarily. The second apparently originated in the brain substance and became externalized comparatively late. In the first case there was a history of dystocia from a large head, and the tumor was probably congenital. In the second case the child was apparently well until six months before death. This may have been due to involvement of a "silent area."

From the literature of the past ten years the author collected fourteen tumors of the same type. All showed the same macroscopic structure: were localized in the hemispheres of the brain, occurred in children under five years of age, and ran a malignant course. Four of the patients recovered after radical surgery. In one case, operation was supplemented by irradiation. Lev states that operation should be as radical as possible, the reaction including not only the tumor but also the layer of nerve tissue immediately surrounding it. Radiotherapy should be used only in conjunction with surgery.

ARTHUR G. MORGAN, M.D.

Weingrow, S. M.: The Trigemino-cervical Reflex. *Lancet*, 1936, 1935, 45: 375.

The trigemino-cervical reflex is a reflex of the cervical muscles. It becomes abnormal in nuclear and supranuclear lesions as well as in lesions of the sensory division of the trigeminal nerve. A high form of the sensory arc of the reflex is exhibited as follows:

While one hand is palpating the muscles of the back of the neck, the nasal region, the forehead, or some other part of the face is tapped with the other hand. A contraction of the muscles may be felt by the palpating hand. This hand is then shifted laterally, anteriorly, and to the opposite side while the tapping is carried out in one locality.

In the normal individual the reflex is equal bilaterally. Abnormal variations are found in cases of the upper cervical segments, the brain stem, and the brain.

DAVID J. LUTHER, M.D.

Tortellá, P.: Anastomosis of the Buccal and Facial Nerves (Nota sobre la anastomosis buco-facial). *Rev. de cirug. de Barcelona*, 1931, 1: 82.

Textbooks generally say that the buccinator muscle derives its motor innervation solely from the facial nerve and that if the buccal nerve supplies any fibers they are sensory. The author doubted this because he found in dissections that only a few fibers passed directly from the facial nerve into the mass of the buccinator muscle while many fibers passed from the buccal nerve into the muscle. To settle the question he carried out experiments on dogs. On dissecting the facial and buccal nerves out and stimulating them electrically, he found that

stimulation of the intact facial nerve caused an intense contraction and stimulation of the buccal nerve a less intense but still very evident contraction of the buccinator muscle. When he sectioned the nerves to eliminate the possibility of reflex contraction he found that stimulation of the peripheral head of the buccal nerve caused contractions as intense as before the section.

He concludes that the motor innervation of the buccinator muscle is derived from fibers coming directly from the facial nerve fibers coming from the facial nerve through anastomoses between the facial and buccal nerves and motor fibers from the buccal nerve. There are free anastomoses between the buccal and facial nerves. A perivenous anastomosis is always to be found around the facial vein and there is a variable number of anastomoses around Richet's fat pad. In one case Tortella observed an anastomosis between the two nerves below the upper end of the zygomatic major muscle. He did not find the openings in the muscle for the passage of the nerves that have been described by some. On the contrary he noted that the nerve fibers formed a sort of network around the muscle bundles.

ALFRED GROSS MORGAN M.D.

SPINAL CORD AND ITS COVERINGS

Juzefevskij A. The Surgical Treatment of Syringomyelia. Its Critical Evaluation According to the Immediate and Late Results. (Die operative Behandlung der Syringomyelie ihre kritische Bewertung nach den unmittelbaren und den Fernresultaten.) *Dtsch. Wochenschr. f. Chir.* 1935 244 503

In 1930 the author reported six cases of syringomyelia and discussed the surgical treatment of the condition. With regard to the immediate results of operation he concluded that the spontaneous pains cease, muscular strength increases and the anesthetic zones become smaller. Since 1930 he has operated upon seventeen additional cases. On the basis of his own cases and eighty one cases which he collected from the world literature he draws the following conclusions.

The immediate results of the Lusepp operation for syringomyelia are in general good. However no case has been cured by operation. Only more or less alleviation of some of the symptoms of the disease has been achieved. This result is no better than that obtained by conservative method of treatment or by mere release from work with consequent protection from occupational injuries. The improvement resulting from the operation is not permanent. In the majority of cases the patient returns in his pre-operative condition after several months or even several weeks. Neither is it possible to prevent further development of the disease and aggravation of the symptoms by operation.

Numerous manometric determinations of the pressure of the cerebrospinal fluid in syringomyelia made in the syringomyelic cavities as well as in the subarachnoid space at the same level showed the

same average values which did not exceed the normal. In the lower cervical portion the pressure measured usually with the patient in the recumbent position was about 100 mm. of water above the atmospheric pressure. Therefore the theory that operation is indicated to reduce increased pressure on the spinal cord was disproved.

The most recent clinical and pathologico-anatomical findings with regard to the etiology and pathogenesis of syringomyelia the dysraphia concept of Henneberg and Dielschowski and the status dysraphicus concept of Bremer have provided no theoretical basis for the operation of Lusepp. When the disease process develops slowly and quietly it is advisable especially when the requirements of the patient's work are unfavorable to refrain from operative intervention. Only in the rare cases in which the disease runs a stormy course because of malignant gliomatosis should operation be considered in the hope of influencing the course of the condition favorably.

(COLMERS) LOUIS ALWELT M.D.

Fay T. Spinal Cord Tumors. *Pennsylvania M. J.* 1935 38 603

The clinical manifestations which permit the early diagnosis and accurate localization of spinal cord tumors are discussed. Pain and paralysis are common symptoms of spinal cord tumor. The pain is referred to the cutaneous periphery supplied by the root or roots involved or deep into their visceral components. It is frequently aggravated by coughing, sneezing or changes in the position of the spinal column. Vasomotor disturbances in the involved segment are common.

As an aid to early diagnosis the author recommends that the boundaries and direction of the radiation of the pain be mapped out on the patient. As a rule a vasomotor flushing may be seen over the area supplied by the involved nerve root. The vasomotor changes have proved to be of early and reliable aid. The skin below the level of involvement often has a high sheen like that of satin whereas the skin above the root level involved suggests velvet in the light effect produced.

Another test involving sensation consists in drawing a taut strip or safety pin over the skin when the patient's eyes are closed. Above the level of root involvement the scratch is clearly recognized. Hyperalgesia is present in the zone showing vasomotor changes. Below the vasomotor level the pain sense is usually distinctly diminished.

A study of the scratch line produced may give a clue to the upper level of the lesion. In the normal area above the lesion the usual flush of the skin about the scratch line is noted. In the zone of vasomotor disturbance a wide rather wheal-like line with raised edges appears whereas below the level little or no change in the skin is noted.

A pilomotor response (Thomas' sign) may be obtained by firmly pinching the deep structures below the border of the sternomastoid muscle at the base

of the neck. Following this procedure "goose-flesh" will appear and will end abruptly at the level of the upper root involvement (vasomotor level). The skin surface below will remain smooth. The opposite side of the body should be tested in the same way.

The author describes also a method for determining the vasomotor level following the administration of pilocarpin. The level of spontaneous or induced sweating may show a clear zone of demarcation above or below the level of the tumor.

Fay believes that the procedures described, in addition to the usual neurological examination, will demonstrate the location of a spinal tumor, and that the use of iodized oil for this purpose is unnecessary. He recommends the intravenous injection of 50 c.cm. of a 50 per cent solution of glucose just prior to operation. The operation will be simplified and the loss of blood will be decreased if care is taken to carry out a periosteal separation of the muscular attachments from the spinous processes. In addition, disarticulation of the laminae with resection of the base pedicles should be done to obtain wide exposure.

Following this procedure a cast or brace is unnecessary.

ROBERT ZOLLINGER, M D

Black, W. C., and Faber, H. K.: A Blood-Vessel Tumor of the Spinal Cord in a Boy Aged Nine Years, with Special Reference to a New Diagnostic Syndrome. *J Am M Ass*, 1935, 104 1889

Blood-vessel tumors and varices of the spinal cord are rare. Of the total number of sixty-three reported, about 10 per cent were purely arterial or presented an arterial component. The remaining 90 per cent were composed of about equal numbers of true neoplastic hemangiomas and venous dilations.

In a case of intradural venous blood-vessel tumor, probably a hemangio-endothelioma with associated varices, occurring in a boy aged nine years, the combination of the Froin syndrome, a negative Queckenstedt test becoming positive after withdrawal of spinal fluid below the lesion, and a peculiar distribution of iodized oil in droplets was observed. The authors suggest that this syndrome may be pathognomonic of subarachnoid varices and vascular tumors of the cord large enough to obstruct the subarachnoid space.

SAMUEL KAHN, M D

Naffziger, H. C., and Jones, O. W., Jr.: Dermoid Tumors of the Spinal Cord: A Report of Four Cases, with Observations on a Clinical Test for Differentiation of the Source of Radicular Pains. *Arch Neurol & Psychiat*, 1935, 33 941

Intradural epidermoid and dermoid tumors arising from the conus medullaris and cauda equina are uncommon. Those reported have been classified variously according to the number of germ layers present. According to Ewing's classification, tera-

tomas are tumors composed of recognizable tissues and complex organs derived from more than one germ layer. Simple dermoids consist of epidermis, derma, and dermal glands. Epidermoid tumors lack definite dermal structures. They are usually considered to be of traumatic origin, but certain well-defined forms of embryonic derivation are classified as cholesteatomas.

The complex embryological development of the rectum, anus, and caudal end of the spinal cord and its appendages favors the formation of congenital anomalies and of embryological tumors belonging to the group under discussion. Dermoid tumors of the spinal cord usually occur along the midline from the cephalic to the caudal extremity and not infrequently are associated with congenital anomalies. Four cases of tumor of the spinal cord of the cholesteatomatous and dermoid type, all observed within a year, are reported in detail.

A clinical test for the differentiation of radicular pain of intradural origin from extradural pain of a radicular type is described. The patient is placed in a comfortable position and when he is free from pain the cervical veins are compressed as in the familiar Queckenstedt test. As the intracranial and intraspinal pressure above the level of the block is raised, the typical radicular pain is produced, presumably because the tumor is displaced sufficiently to cause traction on or irritation of a nerve root. In certain instances such pain may be experienced only on sudden release of the jugular compression. This test has been found of value also for tumors located in other regions of the cord and for gross lesions of various types.

If the test is positive it furnishes presumptive evidence of the presence of a gross, space-consuming intradural lesion. It is so reliable that it is recommended as a definite diagnostic aid.

In 1928, Viets reported that if the fluid is drained from below the level of the block in a case of tumor of the cauda equina, jugular compression will produce intense pain in the segmental area and the area of pain will correspond to the uppermost root affected by the tumor.

Another sign of diagnostic value, which was present in two of the four cases reported, was the occurrence of excruciating pain when the needle encountered dural resistance at the time of lumbar puncture. Operation revealed a tumor anterior to the roots of the cauda equina which displaced the roots posteriorly against the dura so that they were immobile and under tension. The slightest pressure on the dura irritated the immobile nerve roots, causing pain. This finding explained the pain produced by the lumbar puncture. After puncture, careful examination of the end of the needle may reveal fragments of tissue.

Primary tumors of the spinal cord, spinal nerve roots, and spinal membranes frequently cause secondary bony changes which are demonstrable by X-ray examination. Camp, Adson, and Shugrue recently reported demonstrable bony changes in

from 15 to 20 per cent of cases of tumors arising from tissues within the spinal canal

EDWARD S. PLATT, M.D.

SYMPATHETIC NERVES

Hartung, A. and Rubert, S. R. Roentgen Aspects of Sympathetic Neuroblastoma with the Report of Two Cases. *Radiology* 1935 24 607

Sympathetic neuroblastoma is discussed in a general way with regard to its pathological and clinical aspects and with special emphasis on the roentgen findings. The two cases which the authors report in detail show the high degree of malignancy of the tumor as manifested by rapid progress with the formation of diffuse metastases and call attention to the difficulty encountered in attempting to localize the primary site of the lesion before death. They are unique in that the roentgen examinations revealed the original tumor to be located in the lower cervical region and to have entered the chest and replaced the apex of the lung. In addition they showed marked metastatic bone changes which were fairly characteristic. They demonstrate that a provisional diagnosis can be made on the basis of the symptoms usually those of the metastases which consist of supra orbital swelling, proptosis of

the eye, and roentgen findings. Roentgen therapy failed to affect the tumors appreciably and produced no apparent change in the course of the disease.

Rogers, L. The Treatment of Spasmodic Dysphagia by Sympathetic Denervation. *Brit J Surg* 1935 22 829

Spasmodic dysphagia, anemia and atrophic changes in certain mucous membranes constitute a well known syndrome occurring in women. There is a tendency for patients with this condition to develop pharyngeal carcinoma. Hitherto the treatment has been symptomatic. It occurred to the author that the condition might be alleviated and the development of carcinoma prevented by relaxing the supra esophageal sphincter and increasing the blood supply to the hypopharyngeal mucosa. It appeared that these desiderata could be accomplished by removing the sympathetic innervation of the sphincter and the lower part of the pharynx. Investigation showed that the sympathetic component of the pharyngeal plexus is derived entirely from the superior cervical ganglion. Bilateral superior cervical ganglionectomy seemed to be the procedure of choice. The author has performed this operation once. The results are as yet undetermined.

DAVID J. IMPASTATO, M.D.

SURGERY OF THE THORAX

CHEST WALL AND BREAST

McGehee, J. L., and Schmeisser, H. C.: Tuberculosis of the Breast. *Am J Surg*, 1935, 28 461

The authors review the literature on tuberculosis of the breast and report 8 cases which were found in a series of 447 cases of breast conditions treated at the General Hospital in Memphis, Tennessee.

Uncertainty still exists as to the mode of infection of the breast. The theory that the involvement occurs by the lymphatic route is supported by the intimate relationship between the intramammary lymphatics and the axillary and mediastinal lymph nodes. However, infection by the hematogenous route is not excluded. In most cases the breast involvement appears to be secondary.

The differential diagnosis is difficult, especially in the early stage of the so-called primary form (that in which no other focus is demonstrable). Pre-operative irradiation followed by cauter knife excision and postoperative irradiation, is recommended

JACOB M. MORA, M.D.

Todd, A. T., Scott, S. G., Coke, H., Finzi, N. S., and Others: Discussion on the Prevention and Treatment of Metastases in Carcinoma Mammæ. *Proc Roy Soc Med*, Lond, 1935, 28 681

Todd believes that for successful results in cancer therapy it is necessary to take into consideration a defense mechanism such as he has observed in the natural growth of malignant neoplasms. He states that he developed the selenide method of treatment with the expectation of increasing such a mechanism. His method consists in impregnating the defense tissue with selenium colloids, activating the colloid by repeated small doses of X-ray irradiation, and then administering the radio-active colloid to obtain continuous activation. If the growth is not checked, further X-ray ionization is given. The dosage of irradiation and of colloid varies from case to case because the number of endothelial cells in the defense tissue is variable. Todd's treatment for mammary metastases varies according to whether it is given in a case of neglected and inoperable primary growth, metastases after the usual incisional surgery, or a recurrence after radium surgery, or is administered for prophylaxis after a supposed surgical cure. The technique and other factors in each type of case are described in detail and the results in twenty-seven cases are summarized.

Scott also expresses the opinion that present-day radiotherapeutical and surgical methods limited to local treatment are inadequate for satisfactory results in the majority of cases. He believes the only safe basis for treatment is the assumption that

metastases have been formed in every case in which a diagnosis of cancer has been possible. The only practical means of influencing the formation of metastases by roentgen therapy is the use of rays of medium length over a large area of the body with the object of establishing some form of immunity or of raising the bodily resistance. He cites experimental evidence supporting this contention. He has designed apparatus for the administration of such "wide-field" moderate irradiation which he has used for twelve years. He recommends this form of irradiation only as an after-treatment, i.e., treatment given after the primary growth has been dealt with by any means considered advisable. The constitutional effects obtained with it may be demonstrated by the vanadic acid test. Scott's use of the method as controlled by this test is described at length.

Coke discusses various details of the vanadic acid test mentioned by Scott. It is a serological test permitting the demonstration of colloidal abnormalities in certain diseases, including cancer, by means of which various therapeutic methods, including roentgen irradiation, may be controlled in the attempt to correct such abnormalities. Trials with this test to date give hope that it offers a means of maintaining the general defense mechanism of the organism.

FINZI states that the formation of metastases can be prevented only by complete removal of the disease. The so-called prophylactic treatment after surgical removal of the growth is in reality a treatment of possible small metastatic remnants. In the treatment of these metastatic remnants Finzi has found it necessary to give a full dose just as if obvious palpable metastatic deposits were present. He states that obvious distant metastases should be treated by full doses of penetrating roentgen rays, even if only for palliation. He doubts whether generalized irradiation is of value when metastases are distributed throughout the body.

WEBSTER briefly outlines the prevention and treatment of local, regional, and distant metastases from breast cancer by radiological methods on the basis of the generally accepted surgical point of view that cancer is a local disease which should be attached locally or on the basis of the theory held by some that cancer is essentially a general disease with local manifestations. He believes that distant metastases may often be prevented by a suitable course of pre-operative or postoperative X-ray treatment to prevent "recurrence." According to his experience, postoperative X-ray treatment improves, and may even double, the likelihood of a successful result from operation. Generalized methods of treatment such as total irradiation and

methods of chemical or gland therapy had so far produced very few good results in histologically proved cases. It appears to Webster that the well authenticated claims for the direct methods of attack deserve first consideration when cure rather than palliation is attempted.

LYNAM states that he has tried a number of injections in association with irradiation treatment of carcinoma, and though several of the colloids seem to be of value in certain cases none of them can be relied upon. He is of the opinion that judicious irradiation which had been proved to cause the disappearance of metastases contributes also toward preventing their appearance in cases in which recurrence is expected.

PILLERS reports his experiences in a number of cases in which he used the Todd method of treatment. In the main, he has found this method unsatisfactory and not curative. He questions the existence of resistance in cancer. He states that the less frequently the attempt is made to explain failures of treatment by attributing them to failure of the patient's resistance and the more attempts are made to discover how best to attack the cancer cell the more quickly will cancerous processes be controlled. In this connection he cites the fact that hard X rays have been found to give fairly consistent results in cases in which the use of soft X rays is unsuccessful. ANDRUS HARTUNG, M.D.

TRACHEA, LUNGS AND PLEURA

Arnesen, A. J. A. Further Experiences with the Puncture Treatment of Pleural Empyema (Weitere Erfahrungen mit der Punktionsbehandlung von Pleuraempyemen). *Acta chirurg. Scand.* 1935 76 389.

The author has treated twelve cases of empyema following pneumonia and one case of bilateral staphylococcal empyema by puncture alone. Recovery resulted in all. The ages of the patients ranged from two to seventy years; the number of punctures from two to seventeen; and the duration of the treatment from three to twenty-two weeks. Later punctures were combined with the aspiration of air which seemed to create a negative pressure with a very favorable effect on the dilatation of the lung. At every puncture the cavity was thoroughly emptied and then thoroughly washed out with sterile water to which a little tincture of iodine had been added or a solution of rivanol.

ESOPHAGUS AND MEDIASTINUM

McGibbon, J. The Esophageal Lesions Encountered in Cases of Dysphagia with Anemia. *J. Laryngol. & Otol.* 1935 50 329.

The group of symptoms known as the Plummer-Vinson syndrome is characterized by glossitis, stomatitis, atrophic pharyngitis, and dysphagia associated with anemia. In most cases the anemia is of the secondary type but the dysphagia may

occur in the course of pernicious anemia. Frequently there are also other pathological manifestations such as splenomegaly, koilonychia, achlorhydria, fissures at the angle of the mouth, malnutrition, nervousness, menstrual disorders, a brownish yellow discoloration of the skin, and increased fragility of the red blood cells.

The disease is of insidious onset and long duration. It usually occurs in women of middle age. In men it is rare.

Following a review of the literature the author reports seven cases in detail and describes the esophageal lesions found. He believes that the esophageal lesions may be regarded as manifestations of a disease of which the underlying cause is a digestive or nutritional defect. The greater frequency of the disease in women than in men is probably due to the demand made by pregnancy and menstruation. SAMUEL HARTY, M.D.

Nissen, R. The Treatment of Functional and Organic Narrowings of the Esophagus and Cardia (Behandlung der funktionellen und organischen Verengungen von Ösophagus und Cardia). *Schweiz. med. Wchschr.* 1934 2 1111.

In cases of spasm of the esophagus the fundamental cause of the spasms must first be determined. When the spasms are manifestations of a general increase of nervous irritability atropin res., and suggestive therapy will be effective. Other spasms are reflex spasms caused by diverticula or ulcers of the esophagus, diaphragmatic hernia, tumors or inflammatory conditions of the mediastinal cavity, aneurism of the aorta or gastric or duodenal ulcer. Obviously the underlying cause must be treated.

Diverticula of the cervical portion of the esophagus are treated surgically. For the prevention of recurrences wide exposure and excision of the neck of the diverticulum are important. Traction diverticula at the level of the tracheal bifurcation are operated upon only when they have broken through into the respiratory tract. Under the latter conditions they give rise to the symptoms of a pulmonary abscess. After a preliminary gastrostomy a two-stage operation is performed according to the method of Sauerbruch. When in cases of epiphrenic pulsion diverticula the cardiospasm cannot be relieved by conservative treatment a transdiaphragmatic anastomosis between the diverticulum and the stomach is advisable. Esophageal ulcer usually heals when the esophagus is placed at rest for a sufficient length of time by gastrostomy. For true cardiospasm dilatation of the cardia by the method of Starck is recommended. When this is unsuccessful esophagogastrostomy is justifiable. Heller's operation is useful in most cases of congenital mega-esophagus; the expulsive force of the esophagus is obviously insufficient. Anastomosis promises no definite results unless a true stenosis is present. Small hiatal hernias require no surgical treatment. Surgery is indicated for hiatal hernia only when there is a constant and marked protrusion of the stomach

through the diaphragmatic opening. Certain cicatricial stenoses may be dilated with sounds after preliminary gastrostomy. Plastic reconstruction of the esophagus with a skin tube is necessary only when complete obstruction is found in the middle or upper thoracic portion of the esophagus.

A few benign neoplasms of the esophagus can be removed successfully by operation (Sauerbruch). In cases of carcinoma, removal of the tumor is usually to be considered only when the lesion occurs in the cardia or the epicardial portion of the esophagus. Foreign bodies should be removed by an esophagoscopy method whenever possible. If they have already caused peri-esophageal inflammation, the perforation may be dilated by the endoscopic method described by Seiffert. Removal of foreign bodies by operation may be done from the neck down to the bronchial bifurcation and from the stomach upward for a distance of 21 cm. after forcible dilatation of the cardia. (A. BRUNNER) MATHIAS J. SEIFFERT, M.D.

Treer, J., and Ladislaus, F.: The Possibilities of Curing Severe Erosions of the Esophagus (Ueber die Heilungsmöglichkeiten der schweren Oesophagusverletzungen). *Monatsschr. f. Ohrenh.*, 1935, 69, 96.

The authors state that old strictures of the esophagus will often permit only minimal dilatation or no dilatation at all. In their cases they have found that while, after energetic sounding, the permeability of the esophagus was at first increased, it later decreased or the esophagus became completely obstructed. After the temporary improvement the patients neglected treatment and returned only after food became lodged and could not be removed. Following gastrostomy the ability to swallow improved even when no attempts at dilatation were made after the operation.

The authors attribute strictures which tend to become worse to inflammatory processes in the area of destruction. They assume that cicatricial tissue does not shrink, but either becomes resorbed or, as the result of constant irritation, becomes increased. In cases of severe erosions swallowing always causes irritation by pulling on the cicatricial tissue. When irritation due to the decomposition of food remnants or sounding is added, the cicatricial tissue does not decrease but becomes increased and narrows the esophageal lumen.

Follow-up studies were made of fifty-one patients subjected to gastrostomy for severe erosions of the esophagus. Some of the patients who before the operation were able to swallow liquids only with difficulty or not at all, were able to swallow liquids two or three weeks after the operation and became able to swallow normally within nine months. In some of the patients complete closure of the esophagus occurred after temporary improvement. Eleven of the fifty-one patients died as the result of perforation. Of these, eight died within two months.

The authors divide their cases into three groups. (1) those in which gastrostomy was done in the first

or second month after the erosion, (2) those in which it was done within from three to eleven months, and (3) those in which it was done after from one to four years. Definite closure of the esophagus occurred in 11.5 per cent of the first group, 33 per cent of the second group, and 54 per cent of the third group. Permanent stenosis therefore occurred less frequently the earlier the esophagus was placed at rest by gastrostomy. In children, up to nine years of age its incidence was 20 per cent, whereas in patients between sixteen and fifty years of age its incidence was 50 per cent. The authors ascribe the difference to the fact that, in adults, satisfactory nourishment requires earlier feeding by mouth and therefore the esophagus cannot be kept at rest as long as in children. They emphasize the importance of introducing as large a tube as possible into the stomach.

With regard to the treatment of destruction of the esophagus, the authors state that treatment should be begun early in every case of erosion. If normal permeability of the esophagus is not restored in two months, forcible dilatation must be done or, preferably, gastrostomy should be performed and the patient fed exclusively through a tube for a period of months. (VON SCANZONI) JOHN W. BRENNAN, M.D.

Zeno, A., and Santanelli, L.: Simple Ulcer of the Esophagus (La úlcera simple de esófago). *Bol. Soc. de ciruj. de Rosario*, 1934, 1, 476.

Simple ulcer of the esophagus is usually located in the lower part of the esophagus. Its characteristics are similar to those of other ulcers in the zone of acid gastric juice, such as peptic ulcer of the stomach and duodenum. Its cause is probably the same as that of peptic ulcer elsewhere. As islands of gastric mucosa are sometimes found in esophageal mucosa, acid juice may be secreted in the esophagus.

The cardinal symptoms of simple ulcer of the esophagus are pain, dysphagia, and vomiting. In some cases there are no symptoms. High epigastric or retrosternal pain is usually relieved by alkalies. Dysphagia depends upon cicatricial stenosis.

The diagnosis can be made with certainty only by esophagoscopy examination. The ulcer may be visualized as a flat lesion without annular infiltration of the esophageal wall and without exuberant fungations. There is usually a zone of hyperemia around the rim of the ulcer. Important complications are hemorrhage and perforation.

The authors report two cases in detail. Both presented the picture of an acute surgical condition of the abdomen and in both laparotomy was followed by death. The findings made at autopsy and on histological examination of the lesions are included in the report. WILLIAM R. MEEKER, M.D.

Magaldi, B.: The Surgical Anatomy of the Organs of the Anterior Mediastinum (Anatomia chirurgica degli organi del mediastino anteriore). *Rev. di chir.*, 1935, 1, 82.

Magaldi describes the surgical anatomy of the organs of the anterior mediastinum and reviews the

development of cardiac surgery. He discusses the indications, technique and general results of pericardiocentesis, the different methods of pericardiectomy, the extraction of foreign bodies, the treatment of cardiac wounds, valvulotomy, and operations on the great vessels. He considers Brauer's precordial thoracotomy, the operation of choice in adhesive mediastinopericarditis. He states that the Volhard-Schmieden decortication is a very serious and difficult procedure which should be employed only with great caution. Phrenic excision has an encouraging future in a restricted field, i.e. cases in which normal cardiac function is prevented chiefly by pericardiodiaphragmatic adhesion. Pulmonary embolectomy is strongly indicated in recurrent cases with progressive aggravation and in cases of moderate severity in which the condition is usually preceded by signs of phlebitis.

The author reports briefly a case of tuberculous pericarditis in a girl fifteen years old in which repeated pericardiocentesis gave an unexpectedly successful result. The patient recovered completely except for a partial pericardial emphysema which does not interfere with her normal household activity.

M. E. MORSE, M.D.

MISCELLANEOUS

Peirce, C. B. *Extrapulmonary Tumors of the Thorax. Radiology* 1935 24: 467

Peirce describes briefly the various extrapulmonary and extramediastinal tumors of the thorax

and classifies them according to origin and location as follows:

Tumors of the thoracic wall proper (1) non-malignant primary neoplasms such as lipomas, fibromas, myxomas, chondromas, osteochondromas and angiomas, (2) malignant primary tumors such as chondrosarcomas, osteochondrosarcomas, osteogenic sarcomas, giant sarcomas, and myxo-endotheliomas, (3) metastatic malignant neoplasms such as carcinoma of the breast, osteogenic sarcomas, lymphoblastomas, myeloblastomas, and Ewing's endothelioma of the bone, and (4) ganglioneuromas and neurofibromas (von Recklinghausen).

Tumors of the pleura (1) tumors of extrinsic origin such as metastatic malignancy, echinococcus, cysts, tuberculomas, and fibromas, and (2) tumors of intrinsic origin such as endotheliomas and chondromas, of the phrenic pleura.

Tumors of other local origin which do not properly arise from the thoracic wall or pleura but may cause roentgen changes by pressing upon or invading the wall or pleura: (1) aneurysms of the innominate artery, (2) newgrowths from embryonal rests, and (3) the so-called superior pulmonary sulcus tumor (which is probably a primary carcinoma of the pulmonary apex).

In conclusion Peirce says that this series of tumors constitutes a most diverse and relatively rare group which may require extensive and critical study in conjunction with thorough roentgen examination for their differential diagnosis.

J. DANIEL WELLES, M.D.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Bombi, G.: Biliary Peritonitis Without Apparent Perforation of the Biliary Tract (La peritonite bilare senza perforazione apparente delle vie biliari) *Arch ital di chir*, 1935, 39 425

Biliary peritonitis without apparent perforation of the biliary tract was first described in 1911 by Clairmont and von Haberer who formulated the hypothesis that the condition was due to certain pathological processes not detectable by ordinary macroscopic examination. Since the report of Clairmont and von Haberer, several other cases have been recorded in the literature.

Bombi reports two cases of this type of peritonitis. The first was that of a woman, forty-eight years of age who for twenty years had suffered severe epigastric pain which recurred usually during the fasting hours and was relieved by the ingestion of food. Cholecystotomy with drainage was followed by uneventful recovery.

The second case was that of a fifty-six-year-old woman with a history similar to that given by the first patient. Cholecystectomy was done. On histological examination of the gall bladder the mucosa at the site of a macroscopically visible herniation was found to be necrotic and to show retrogressive changes such as are usually observed in postmortem material. The submucosa was slightly infiltrated with lymphocytes, neutrophils, eosinophils, and a few erythrocytes. The muscularis was of normal thickness, but the circular layer was made up only of a few bundles with an interrupted and irregular arrangement. The subserosa showed the presence of a large thrombus. This area had undergone inflammatory and necrotic changes, and at several sites showed an accumulation of bile pigment which proved that bile had passed through the wall. The serosa was markedly inflamed. The peritoneal mesothelium had been destroyed and replaced by a thick fibrinous layer. The non-herniated portion of the gall bladder was essentially normal.

It appears that biliary stones, cholecystitis, trauma, and certain rare pathological conditions such as carcinoma of the gall bladder are predisposing factors. In a few cases the bile was found to contain ferments of pancreatic origin as the result of some abnormality of the pancreas or its ducts.

With regard to the pathogenesis the author states that there seems to be considerable doubt whether the filtration theory is correct. Many other suggestions have been offered, but the problem still requires further investigation.

The symptoms are identical with those of a diffuse peritonitis. A differential diagnosis is impossible. The condition is most often confused with

peritonitis caused by a ruptured appendix or a perforating peptic ulcer.

The prognosis is poor unless treatment is given. The treatment is always surgical and should be instituted early. The operation of choice is cholecystectomy combined with drainage of the common bile duct, but cholecystotomy and simple drainage of the subhepatic region have also given satisfactory results.

RICHARD E. SOMMA

GASTRO-INTESTINAL TRACT

Pack, G. T., and McNeer, G.: Sarcoma of the Stomach. *Ann Surg*, 1935, 101 1206

The great majority of the malignant tumors of the stomach are carcinomas. The occurrence of lymphosarcoma, fibrosarcoma, myosarcoma, and neuro-sarcoma in the stomach is very rare.

The authors report nine cases of sarcoma of the stomach which included four of myosarcoma, three of primary gastric lymphosarcoma, and two of generalized lymphosarcomatosis with secondary involvement of the stomach.

The sarcomas constitute about 1 per cent of all gastric tumors. They occur with equal frequency in males and females. The average age of the authors' patients was forty-six years. Some of these tumors are symptomless. In the greater number of cases there is no history of gastric distress. Symptoms of obstruction are infrequent. Pain occurs only in the presence of mucosal ulceration. The average duration of the symptoms is nine and one-half months. As a rule it is impossible to differentiate a sarcoma from a carcinoma of the stomach by roentgen examination, but horizontal filling defects and the persistence of gastric peristalsis in the presence of a definite lesion suggest the former.

The treatment of choice for localized tumors is partial gastrectomy. This is especially effective in the cases of exogastric sarcomas. Gastric lymphosarcomas are extremely radiosensitive and usually respond favorably to well-planned irradiation treatment.

JOHN W. NUZUM, M.D.

Costantini, A., and Ballarin, G.: Research on Intestinal Peristalsis. The Action of Various Salts Injected Intravenously (Ricerche sulla peristalsi intestinale azione di vari sali iniettati endovena) *Arch ital di chir*, 1935, 39 401

In reviewing the literature dealing with the action of sodium chloride and other salts on intestinal peristalsis, the authors describe the numerous experimental methods employed in the past. They state that, when examined critically, most of these methods were imperfect and therefore yielded unsatisfactory results.

Costantini and Ballarin used young healthy rabbits for their studies of the problem. All observations were made through an abdominal celluloid window which permitted a good view of the entire intestinal tract.

First, normal intestinal peristalsis was studied in a control animal. Subsequently ether anesthesia was used. It was found that immediately after the induction of the anesthesia the entire intestinal tract became markedly ischemic and peristalsis was completely arrested. A moderate hyperemia then developed and the intestine gradually resumed its peristaltic movement. Within ten minutes after removal of the mask peristalsis was again normal.

Atropine sulphate injected intravenously caused almost always an immediate arrest of all peristaltic movements. The small intestine usually resumed its movements after four or five minutes and the colon after fifteen minutes.

Sodium chloride had a stimulating action only in high concentrations. Solutions less than normal had no effect. Sodium bromide, sodium thiosulphate, sodium bicarbonate and glucose acted similarly.

Potassium chloride in $N/2$ solution caused a complete arrest of intestinal movements which was followed by very active peristalsis. A $N/4$ solution caused no initial arrest but very vigorous peristaltic movements. Magnesium salts acted similarly.

Di sodium hydrogen phosphate and sodium sulphate showed an intermediate action in that they activated peristalsis in normal solution and, to a lesser extent in dilute solution.

Sodium fluoride even in dilute solution excited peristalsis whereas calcium chloride always had an inhibitory effect upon it.

The peculiar action of calcium chloride can probably be explained on the basis of its sedative effect upon the nerve ending in the intestinal wall. This explains the purgative action of a few salts which other conditions being equal, bind the calcium with the formation of difficultly soluble compounds.

Sodium chloride, sodium bicarbonate, sodium thiosulphate, sodium bromide and glucose were shown to be very active only in high concentrations. Although the specific action of these compounds can hardly be denied it must be borne in mind that hypertonic solutions such as those used by the authors probably caused a disturbance of the osmotic equilibrium of the blood and that this disturbance itself may have acted as a stimulus to peristalsis.

RICHARD F. SOMMA.

Nell W. Acute and Chronic Infrapapillary Duodenal Ileus (D'acute and chronique infrapapillaire duodenaleus). *Med. Welt* 1935 PP 83-122.

The author considers the usual division of duodenal obstructions into mechanical infrapapillary stenosis, megaduodenum, and arterioomesenteric obstruction of the intestine unfortunate because it does not explain these confusing conditions. It appears to him much more correct to consider all

three conditions from the standpoint of the dominant sign, intestinal obstruction without regard to the anatomical picture. He states that it is important to observe the onset of the disease.

He does not discuss postoperative forms of duodenal obstruction or congenital atresia but describes the functional disturbances which develop during life and are easily confused with other conditions because of their lack of characteristic symptoms. Sometimes these functional disturbances develop on the basis of congenital anomalies such as, for example, as the presence of a common mesentery. The latter permits torsion and kinking. As a rule there are repeated, thrust-like attacks before the occurrence of complete duodenal occlusion. The onset is therefore usually not characteristic and even in the interval stage the diagnosis is very difficult. However there is one characteristic sign during the attack—distention of the upper part of the abdomen which is sharply limited on the left side and below. When this appears, a roentgenogram taken immediately will often show the site of the obstruction. In contrast intestinal obstruction from band formation usually occurs suddenly and without warning. Tumors and inflammatory adhesions less frequently cause infrapapillary stenosis. On the other hand primary functional disturbances may cause kinking with duodenal stenosis secondarily. This is difficult to differentiate from primary arterioenteric duodenal obstruction but a stormy onset suggests the latter whereas silent distention of the gastroduodenal region with uncontrollable vomiting suggests gastroduodenal atony. Apparently a primary megaduodenum is possible. It can certainly be present without causing symptoms. Ptosis and atony of the duodenum may also fail to cause functional disturbances. The symptoms usually appear in middle age.

In conclusion, Nell describes the clinical picture of spastic gastro-intestinal obstruction. He states that Reischauer who first called the condition by this name attributed it to failure of function of the sympathetic nerve. The narrowed small intestine below the secondarily atonic duodenum is not collapsed but contracted. The initiating factor is believed to be a postoperative or toxic spastic tendency. Spastic gastro-intestinal obstruction occurs in both an acute and a chronic form. The picture is extremely protean, and the differential diagnosis of the condition from other conditions which may affect the duodenum proper such as cholecystitis, pancreatitis and duodenal ulcer is difficult.

The author presents a brief discussion of the treatment (W. MANDEL, LEO M. ZIMMERMAN, M.D.).

Minucci Del Rosso L. A Study of the Pathological Anatomy and Pathogenesis of Duodenal Diverticula (Studio anatomo-patologico e patogenetico sui diverticoli del duodeno). *Patologia* Rome 1935 42 sez. chir. 236.

Two cases of perivaterian diverticula are reported. The diverticula were discovered at autopsy and had

caused no symptoms. In the first case, that of a woman of sixty-one years who died of peritonitis secondary to pyelonephritis, there were two diverticula. In the second, that of a man sixty-eight years old who had a liver abscess, only one diverticulum was found. The histological picture in both cases was similar. The muscular coats of the intestine stopped abruptly at the entrance to the cavity, the walls of which were composed of submucosa and a thin flat mucosa without glands. There were no signs of inflammation or neoplasm.

The author reviews the history of duodenal diverticula and discusses their frequency, symptomatology, pathology, and origin. He believes that statistics as to their frequency are unreliable as undoubtedly some of them are overlooked. Of 140 cases on record, the diverticula were discovered at operation in 50 and at autopsy in 90. In 60 other cases the diagnosis was made by roentgen examination. The author summarizes 68 cases in which a duodenal diverticulum was found at operation or autopsy. The first of these cases was reported by Chomel in 1710.

The pathogenesis of duodenal diverticula is obscure. The arguments for a mechanical origin are repeated through tradition but without conviction, and should be definitely abandoned. The dysontogenetic theory is also open to objections on anatomopathological grounds. Diverticula of the duodenum are very probably congenital but differ in origin from diverticula of the large intestine. The author's tentative explanation of their formation is as follows:

At about the third or fourth week of embryonic life, the duodenal anlage, while undergoing canalization, is acted upon by extrinsic mechanical forces, viz., compression by the pancreas and torsion of the umbilical loop. At the same time a small number of accessory cavities normally appear on the dorsal side of the second portion. The latter are usually transitory, but it appears probable that in certain cases the extrinsic factors mentioned may lead to their persistence and exaggeration.

This hypothesis is strengthened by the facts that a very large percentage of duodenal diverticula are in relationship with the pancreas; the presence of pancreatic tissue in the walls of duodenal diverticula is not unusual, and 90 per cent of duodenal diverticula occur in the second and third parts of the duodenum.

The article contains illustrations and statistical tables and is followed by a bibliography.

M. E. MORSE, M.D.

Gardner, C. E., Jr., and Hart, D.: Enterogenous Cysts of the Duodenum. *J. Am. M. Ass.*, 1935, 104: 1809.

The authors report a case of enterogenous cyst of the duodenum successfully treated by permanent internal drainage into the intestinal tract. In six similar cases collected from the literature the mortality was 100 per cent. Three of the collected cases were treated surgically, two by external

drainage. In no case has the diagnosis been made before operation or autopsy. The symptoms are those of duodenal obstruction. As a rule a palpable mass is found in the right upper quadrant of the abdomen. The probable origin of the cyst is an embryonic diverticulum.

LOUIS SPERLING, M.D.

Prey, D., Foster, J. M., Jr., and Dennis, W.: Primary Sarcoma of the Duodenum: Report of a Case. *Arch. Surg.*, 1935, 30: 675.

Primary sarcoma of the duodenum is extremely rare. Only sixty-one authentic cases have been reported in the medical literature. It is usually of the round-celled type, but spindle-celled sarcomas, myosarcomas, and melanomas have been described. The tumor originates in the muscularis or submucosa and grows longitudinally, infiltrating the intestinal wall and transforming the bowel into a solid and rigid tube. It seldom encroaches upon the bowel lumen sufficiently to cause obstruction. Ulceration of the tumor growth is rare as compared with carcinoma. The sarcoma grows to an enormous size. Its average weight is 500 gm. It appears as a smooth, gray, cylindrical mass covered by serosa.

The case reported by the authors was that of a man forty-eight years old who was admitted to the Denver General Hospital on March 13, 1933, with a history of persistent nausea and vomiting of three and one-half months' duration. Recently everything eaten had been vomited. About one month before entering the hospital the patient became conscious of a non-tender mass in the upper part of the abdomen. In the last three months he had had a weight loss of 20 lb. At no time had he passed tarry stools.

Physical examination revealed a palpable mass above the umbilicus extending into the right upper quadrant of the abdomen. The mass appeared to be the size of a grapefruit. It was movable, smooth, and very hard. Gastric analysis revealed no free hydrochloric acid. The total acidity was 5. On roentgen examination after a barium meal the stomach was found well filled and its greater curvature pushed upward from below by a rounded mass. The pylorus was normal. The duodenal cap showed dilatation due to an obstruction in the second portion of the duodenum.

Operation disclosed a large mass the size of a grapefruit occupying the second and third portions of the duodenum and terminating abruptly at the duodenojejunal flexure. The mass was adherent to the pancreas posteriorly, and there were enlarged retroperitoneal glands. Removal of the tumor was impossible. The patient died April 27, about forty days after the exploratory laparotomy. Autopsy disclosed the presence of a large mass occupying the second and third parts of the duodenum and weighing 695 gm. Microscopic sections showed the mass to be a lymphosarcoma primary in the duodenum.

In conclusion the authors state that no case of sarcoma of the duodenum has been cured by operation. The article has an extensive bibliography.

JOHN W. NUTZ, M.D.

Pich H. Circumscribed Phlegmons of the Cecum and Their Treatment (*Die umschriebene Phlegmon des Cecums und ihre Behandlung*) *Heid. u. Klin. Chir.* 1935 161 107

In the simplest form of non specific inflammation of the intestinal wall pericolicitis the wall of the intestine shows delicate deposits or indurated strands which are to be regarded as the sequelæ of an inflammation of the wall which has run its course. When the disease lasts for a considerable length of time the involved part of the large intestine takes on a tumor like appearance and its lumen is definitely narrowed by the thickening of the wall resulting from the chronic inflammation. The tumor like formation occurs most frequently in the cecal region and often involves also the lowermost coils of the ileum. Clinically the disease cannot be distinguished from a specific condition such as actinomycosis tuberculosis or cancer. It has been attributed to traumatization of the mucosa by foreign bodies or intestinal parasites and to metastatic infection following septic systemic diseases or purulent bronchitis. In the majority of all non specific inflammations of the large intestine a pathological change of the mucosa is to be regarded as the cause.

The treatment of circumscribed phlegmons of the intestine must depend upon the extent and nature of the inflammation. All chronic inflammatory tumors of the large intestines must be removed as recovery of the intestinal wall cannot be counted upon. Nordmann says that when the focus is small and circumscribed the intestinal wall may be sewed over it and the focus cut out. Phlegmons of greater extent require resection. Tamponade is to be rejected. Phlegmons of the cecum and the ascending colon are to a great extent capable of spontaneous healing. The author observed spontaneous recovery even in three cases in which the phlegmons had involved the intestinal wall to a considerable extent. He regards the routine performance of ileocecal resection as too radical. In one of three of his cases in which healing occurred without resection an intestinal fistula formed but was closed by operation later. (VON CAHNSTEIN) HARRY A. SALEMANN M.D.

Truesdale P. E. Retroposition of the Transverse Colon. A Report of Two Cases *J. Am. Med. Ass.* 1935 104 1697

Abnormal position of the intestinal tract is the result of some disturbance of migration rotation descent or fixation during embryonic life. Perhaps the rarest of all developmental anomalies of the colon is retroposition of the transverse colon due to inverted rotation of the midgut during the tenth week of embryonic life. In the few cases reported in the literature the transverse colon dipped back into a tunnel behind the duodenum and superior mesenteric artery. Some constriction then caused intestinal obstruction and the cecum and ascending colon became markedly dilated. Truesdale reports the following two cases.

Case 1. A woman forty five years of age was admitted to the hospital with severe abdominal colic. She gave a previous history of obstinate constipation. Two days before she entered the hospital she had a severe attack of colicky abdominal pain which grew progressively worse. No results were obtained from enemata, and there was no bowel movement for forty-eight hours. When the abdomen was opened under the mistaken diagnosis of perforative appendicitis the proximal colon was found enormously distended. The cecum and ascending colon were greatly ballooned. The transverse colon disappeared in a tunnel behind the mesentery. Anterior to it were the duodenum and superior mesenteric artery. Complete obstruction of the transverse colon in its mid portion and a torsion of the mesentery were discovered. The remainder of the colon from this point was completely collapsed. The cecum was needled and suction applied. The cecum was then withdrawn extraperitoneally and sutured into the wound but not opened. No neoplasm was found in the lower large bowel. The patient made a good recovery from the operation. When she was discharged from the hospital twenty five days after her admission the bowel movements were normal.

Case 2. A woman forty nine years of age was operated upon for the removal of a large pelvic tumor. The neoplasm proved to be an adenocarcinoma of the left ovary. As a portion of the descending colon about 5 in. long was involved by the cancer accordingly, the descending colon was resected from the pelvic brim to within a few inches of the splenic flexure and colostomy was performed. One year later an anastomosis was made between the cecum and the rectum to re-establish the normal outlet of the colon and the ascending and transverse colon were resected. At this operation it was observed that the colon passed posteriorly behind the mesentery of the small intestine. It was necessary to pass the left half of the transverse colon through a tunnel posteriorly to remove it. The retrodilated transverse colon had caused no symptoms.

JOHN W. WATSON M.D.

LIVER GALL BLADDER PANCREAS AND SPLEEN

Tenelli S. Hepatic Function in Relation to Operation and Anesthesia in Surgical Affections in General and Diseases and Drainage of the Biliary Tract (*La funzionalità epatica in rapporto all'intervento ed all'anestesia nelle malattie chirurgiche in genere, nelle affezioni e nel drenaggio delle vie biliari*) *Arch. Ital. di Chir.* 1935 39 221

Tenelli studied hepatic function before and after operation as manifested by alimentary hyperglycemia, the retention of bengal rose urobilinuria and the amino-acid curve of the blood and urine after the oral administration of gelatin. With the exception of the urobilin determinations which were begun the first day after operation the postoperative tests were made from five to eight days after the

intervention A few patients were studied during periods of from one to three months

The studies included eight patients with diseases of the digestive tract (appendicitis, gastric ulcer, tuberculous peritonitis, and duodenal and gall-bladder adhesions) and twenty with diseases of the biliary tract The findings are presented in a table and the most instructive cases are reported in full. The results are discussed with the aid of graphs, tables, photomicrographs, and a bibliography

The patients with gastro-intestinal conditions showed more or less hepatic insufficiency. This was generally increased by operation However, the impression was gained that it would eventually disappear after removal of the cause

Hepatic insufficiency was present before operation and increased by the operation also in the majority of the cases of disease of the biliary tract The severity of the postoperative course ran parallel with the degree of insufficiency demonstrated before the operation

The appearance of hepatic insufficiency after operation or an increase of a pre-existing insufficiency is not due solely to either the anesthetic or the operation since both factors act simultaneously The effect of an anesthetic or operation on the liver cannot be judged from the degree of postoperative insufficiency unless the pre-operative function is known Hepatic insufficiency caused or aggravated by anesthesia or operation soon disappears or improves notably If the causative factors are removed the condition of the liver may be much better than before operation However, if operations are repeated at such short intervals that the liver cannot recuperate in the interval, the functional condition of that organ may remain grave even when the primary cause of the insufficiency is removed

In calculous cholecystitis without stasis but with advanced hepatic insufficiency drainage of the biliary tract has no effect, whereas in obstruction of the common duct by stone and hepatogenous jaundice it is followed by marked improvement In other words, liver function is improved by drainage only when the insufficiency is due principally to stasis of bile and not to factors causing profound injury of the structure of the organ

In the studies reported alimentary hyperglycemia was found of great importance for the evaluation of hepatic function and especially for determination of the operative prognosis Determinations of the bilirubin content of the blood did not always give clear and consistent results, but when the content was high in the absence of stasis in the extrahepatic bile ducts the operative prognosis was unfavorable The bengal rose test was reliable in all cases The content of urobilin in the urine was of the greatest importance as an indication of transient or early insufficiency When it was high, its surgical significance was very unfavorable Its variations after operation gave a good indication of an unexpected and serious increase of the insufficiency Protein metabolism tests were found unreliable The functional tests

always agreed with the operative and autopsy findings They left no doubt as to the operative prognosis, only a few of the most sensitive are needed for this determination While no single test is sufficient for diagnosis and prognosis, the following combination is of value: alimentary hyperglycemia, retention of bengal rose, bilirubinemia, and daily elimination of urobilin M E MORSE, M.D

Ottenberg, R. Painless Jaundice. *J Am M Ass*, 1935, 104 1681

Jaundice is of three types (1) hemolytic, (2) toxic infectious, and (3) obstructive

Obstructive jaundice is practically the same as surgical jaundice, whether the obstruction is due to a stone, carcinoma, stricture, or external pressure by other causes.

There is no sure method of distinguishing between obstruction and suppression of bile (liver-cell injury). For following the curve of bilirubinemia the icterus index is preferable to the quantitative van den Bergh test A very high content of bilirubin in the blood occurs most often in hepatic degeneration

A high content of cholesterol and cholesterol esters in the blood usually indicates obstruction, but on rare occasions may occur in hepatic degeneration A low content of cholesterol esters points to hepatic degeneration

A positive galactose-tolerance test indicates hepatic degeneration, but a normal test does not exclude that condition

The appearance of tyrosine in the urine in jaundice points to liver degeneration or malignancy Large amounts point to acute liver autolysis However, the absence of tyrosine in the urine has little significance

In surgical jaundice early operation is important. In medical jaundice, protection of the liver parenchyma by a suitable diet and injections of dextrose is the essential treatment SAMUEL KAHN, M.D

Boyden, E. A : The "Phrygian Cap" in Cholecystography, a Congenital Anomaly of the Gall Bladder. *Am J Roentgenol*, 1935, 33 589

The author discusses the shape of the gall bladder in 165 individuals who were subjected to 200 series of cholecystograms—each series consisting of a large number of cholecystograms made to determine the reaction of a presumably normal gall bladder to one or more forms of physiological experimentation.

Thirty (18 per cent) of these individuals showed marked kinking of the gall bladder, either between the body and infundibulum (24) or between the body and fundus (6) The kinking between the body and infundibulum, presumably occurring early in development through extreme modelling of the fossa vesicae felleae, is believed to represent merely an accentuation or a minor variation of the normal pattern. The gall bladder with kinking between the body and fundus, in which the fundus is fixed and folded, is identified with the "phrygische Mutze" of German pathologists, first described by Bartel in

1916 The author's study indicate that it is the most common congenital anomaly of the human gall bladder. On the basis of new embryological studies this anomaly is subdivided into 2 main types: the concealed or retroserosal type caused by aberrant folding of the epithelial anlage of the gall bladder within the embryonic fossa vesicae felleae; and the serosal type caused by aberrant folding of the fossa itself in early stages of development. In the second type the bend of the gall bladder is fixed by the development of fetal ligaments, vestigial septa, or constrictions of the lumen following delayed vacuolization of the solid epithelial anlage. On the basis of physiological studies the author rejects the current European theory that the folded fundus of an otherwise normal gall bladder is a source of pain in the upper quadrant of the abdomen and therefore of indisputable clinical importance.

MANUEL E. ICHTENSTEIN, M.D.

Erdmann, J. F. Malignancy of the Gall Bladder. *Ann Surg* 1935 101 1133.

In this discussion the author does not include malignancy of the bile ducts or secondary or metastatic malignancy of the gall bladder. On the basis of his experience in about 3,000 operations on the gall bladder he believes it is best not to induce patients to submit to gall bladder operations by use of the cancer argument. He states that in employing this argument the surgeon must be certain that his operative mortality is less than the incidence of malignancy.

The author's records for a period of five years show 522 cholecystectomies and 3 cholecystostomies with 15 deaths, a mortality of 2.85 per cent. The incidence of malignancy was 1.24 per cent (6 cases) less than half the mortality of operation. The average age of the patients with cancer was forty-eight years.

In all of the author's cases in which a carcinoma was discovered at operation for disease of the gall bladder a stone or stones or biliary sand was found.

Except in cases in which metastases are already present there are no symptoms or signs upon which the diagnosis of carcinoma of the gall bladder can be based with certainty.

The treatment of choice for primary carcinoma of the gall bladder is cholecystectomy when this is possible.

JOSEPH K. NARAT, M.D.

Pototschnig, G. The Indications for and the Results of External Cholechooduodenostomy. (*Anzeigstellung und Ergebnisse der Cholechooduodenostomie externa*). *Deutsche Zeitschr. f. Chir.* 1935 244 288.

Among seventy-two operations on the common duct eighteen cholechooduodenostomies were performed. The objections which have been advanced against cholechooduodenostomy were refuted. In the surgery of the biliary passages the procedures of choice are those which permit internal drainage. Cholechooduodenostomy is to be considered when

after artificial dilatation of the papilla is impossible or of the common duct is either impossible or untrustworthy. Other indications for this procedure are:

1 The presence in the common duct of multiple calculi with an admixture of mucus and grit.

2 Cicatricial narrowing of the lower portion of the common duct and chronic cirrhosis of the head of the pancreas.

3 Suppurative cholangitis.

4 Accidental operative injury of the common duct.

5 Idiopathic cyst of the common duct.

6 External compression of the common duct.

Of the eighteen cases of cholechooduodenostomy reported by the author the operation was followed by death in two. In ten cases primary closure of the abdominal cavity was done. In one case a duodenal fistula occurred. In four cases end-to-side anastomosis was done. The author states that the danger of backflow of intestinal contents into the common duct and therefore of ascending infection is apparently less common when cholechooduodenostomy is done than when the gall bladder is used in the anastomosis. In only one of the cases reported did postoperative x-ray examination reveal passage of the barium into the biliary passages. One female patient had attacks of cholangitis after the operation. The author leaves unanswered the question as to whether these symptoms were due to the operation or weakening of resistance.

(F. BERNHARD) HARRY A. SALEM, M.D.

Casabarrini, A. Latent Adenocarcinoma of the Body of the Pancreas. (*Adenocarcinoma latente del corpo del pancreas*). *Polichin* Rome 1935 42 sez. prat. 477.

The case reported was that of a woman fifty-six years of age who at the age of fifteen had a mild attack of typhoid fever and when twenty years old developed anemia accompanied by a slight elevation of the temperature, pallor, extreme asthenia, dizziness and loss of weight. She never recovered from the latter condition in spite of treatment.

As she had always been severely constipated it had been her habit to take daily doses of a saline cathartic or senna. She stated that she often experienced abdominal pain and that she had had an ascariasis infection of several years' duration.

Shortly before her admission to the clinic she complained of diffuse abdominal pain. After she consulted a physician who treated her for colitis, the pain became localized mainly in the right side and she suffered severe nocturnal attacks accompanied by general malaise, a sense of fullness in the stomach and marked asthenia. She noticed also an icteric tint of the skin and sclera and a darkening of the urine.

Physical examination revealed marked emaciation, pronounced icterus and a pitting edema over osseous surfaces. The tongue was coated and dry. There was a pleural effusion on the right side and deep palpation of the abdomen revealed the presence

of an irregular, indurated, and tender mass extending from the region of the epigastrium to about 3 cm from the umbilicus. Ascitic fluid was present and the liver and spleen were moderately enlarged.

While the patient was in the hospital the jaundice deepened, the stools became acholic, and there were three attacks of severe nocturnal colicky pain localized under the right hypochondriac region and in the right flank. She was never nauseated and never vomited.

X-ray examination revealed no lesions referable to the gastro-intestinal tract or the head of the pancreas.

On the basis of the history, clinical picture, and laboratory findings and after definite exclusion of hemolytic jaundice, the author considered the possibility of an obstruction along the biliary passages, probably at about the level of the hepatic ducts. He concluded that the obstruction was due to a carcinomatous growth in the body of the pancreas and that pleural effusion was the result of transdiaphragmatic metastases.

The patient died some time later. Postmortem examination disclosed a large neoplastic growth involving mainly the body of the pancreas, metastases along the suprapancreatic, pre-aortic and retrogastric lymph glands and along those accompanying the hepatic and common ducts, and transdiaphragmatic metastases to the pleura and the base of the right lung.

Histological examination confirmed the diagnosis of adenocarcinoma of the body of the pancreas.

RICHARD E. SOMMA

MISCELLANEOUS

Pozzi, A : "The Coin Test" in Pneumoperitoneum (Il "segno del soldo" nel pneumoperitoneo). *Polit-clin*, Rome, 1935, 42 sez med 197

The value of the coin test in pneumoperitoneum was recognized by the author as the result of an accidental observation in the case of a patient with amebic dysentery and an ulcer perforating into the peritoneum. In this instance, application of the coin anteriorly and auscultation posteriorly determined the diagnosis, which was corroborated by roentgen examination and laboratory reports.

In examination of the thorax, the test is essentially that of Pitres and Trousseau. It consists in applying a coin to the chest, striking it with another coin, and at the same time auscultating on the opposite side of the chest. In the presence of air-containing cavities the sound is a metallic tinkle. This is constant in a zone containing gas, fails to occur when there is exudation, and recurs when the liquid is absorbed. In the abdomen the test is performed in the same way and the sounds are similar to those heard in the chest.

In ten cases in which the author produced artificial pneumoperitoneum he found that the test was most characteristic after the injection of from 900 to 1,000 c cm of air, when the roentgen image was most indicative of air.

In the simple meteorism of pneumocolon the signs of the coin test follow the course of the colon, while in pneumoperitoneum they are diffuse over the abdominal wall.

CLARA RAVEN

GYNECOLOGY

UTERUS

Guthmann H and Atzert W Operation or Irradiation Treatment of Myoma? A Report on Clinic Cases Treated in the Period from 1920 to 1930 (Operation oder Strahlenbehandlung der Myome? Ein Bericht ueber die in den Jahren 1920-1930 behandelten Faelle der Klinik) *Monatsschr f Geburtsh u Gynaek* 1935 98 321

The authors discuss the advantages and disadvantages of irradiation and surgical treatment of uterine myomas on the basis of 150 cases. Two hundred and thirty five of the patients were treated by irradiation 183 by operation and 11 by non specific measures. Of the 335 treated in the period between 1920 and 1930 and followed up 183 were treated by irradiation by various methods 155 were operated upon by various methods and 32 received non specific treatment. The end results in those treated by operation and those treated by irradiation were almost the same when the permanent amenorrhea induced by irradiation is compared with that produced by complete removal of the uterus and the temporary amenorrhea induced by irradiation is compared with that induced by partial operation.

The primary mortality in the operatively treated cases was 4.8 per cent. The symptoms secondary to the treatment for myoma were symptoms of genital insufficiency, obesity and difficulties in sexual intercourse. Even as regards the signs of genital insufficiency, the results of irradiation and surgical treatment were similar. The frequency of such symptoms after complete removal of the uterus and both ovaries and after the induction of permanent amenorrhea by irradiation was approximately 87 per cent. When 1 ovary was left the results with respect to these symptoms were more favorable. The authors attribute great importance to psychic phenomena in the occurrence of such symptoms.

The gain in weight was the same after both surgical and irradiation treatment. First there was the gain in weight due to convalescence. In 5 per cent of the patients who were treated by irradiation as well as of those treated surgically this gain in weight was pathological.

The incidence of difficulties in sexual intercourse due to involutional changes was 13 per cent after irradiation and 14 per cent after operation.

On the basis of these findings the authors conclude that the treatment for myoma must be based on the requirements of the individual case. In the choice of treatment it is necessary to consider the type of the myoma (subserous intramural submucous intraligamentary) complications the age of the patient the importance of preserving menstruation.

the patient's ability to conceive endocrine disturbances and nervous disturbances. The authors believe that irradiation and operation should be used in conjunction with each other.

(F. A. WHEEL) HARRY A. SALZMAN M.D.

EXTERNAL GENITALIA

Ruffel Z. A Case of Melanoblastoma of the Vulva (Ein Fall von Melanoblastom der Vulva) *Zentralbl f Gynaek* 1935 p 326

A nullipara seventy eight years old who entered the hospital with cachexia and cyanosis gave a history of recent irregular, slight hemorrhages which had ceased and gradual swelling of the labia. Three days after her admission she died. The findings of the examinations made before and after death included small tumor nodules up to the size of a pea in the cerebral cortex and the bone marrow, a very large number of brownish black and mottled nodules up to the size of a cherry in the lungs, black pearl necklace like nodules in the costal pleura and nodules in the cardiac muscle, pericardium, pharynx, esophagus, liver, gall bladder, spleen, adrenal, stomach, intestines, pancreas, uterus, ovaries and bones.

At the site of insertion of the prepuce of the clitoris and on the inner surface of the labia minora there were thick indurations with ulcers, the bases of which were grayish and black. The swollen labia minora projected beyond the labia majora. The entire vulva was studded with small black nodules. Some of the cells were free from pigment whereas others were so full of pigment that the shape of the cells was not recognizable. The nucleus and cell body were hidden and the pigment had spread outside the cell. The cells varied considerably also in other respects. Staining disclosed a very dense reticulum which ceased near the squamous epithelium and extended into the papilla with only a few fibers. Large portions of the vulvar tumor were necrotic especially in the deeper parts. The lacunae of the corpora cavernosa of the clitoris were filled by tumor cells. The large blood vessels also contained tumor masses and the inguinal glands showed metastases. The tumor of the vulva was regarded as primary because it was the largest nodule.

(R. MEYER) WILLIAM C. BECK M.D.

MISCELLANEOUS

Allen E. B. Menstrual Dysfunctions in Disorders of the Personality. Their Nature and Treatment. *Endocrinology* 1935 19 255

One hundred and fifty patients at the Bloomingdale Hospital, White Plains, N. Y. were selected for

a clinical study of the relation of menstrual disorders to functional mental illness and the effect of treatment, especially endocrine treatment, for their relief. These patients were divided into the following 4 groups according to psychiatric diagnosis (1) 54 with manic-depressive psychoses, (2) 54 with schizophrenic psychoses, (3) 21 with psychoneuroses, and (4) 21 with miscellaneous conditions consisting of psychopathic personalities and psychoses associated with somatic disease.

Many of the patients in acute states of excitement were menstruating when they entered the hospital. Seventy-six per cent of the manic-depressives were menstruating on admission or menstruated within a week, while only 46 per cent of the schizophrenic group were menstruating on admission or menstruated within a week. In the manic-depressive patients there was a definite correlation between the degree of activity, with its associated mood, and the amount of menstrual flow. Of 34 patients observed in the manic phase, few showed any interruption in their menstrual periods. The more intensely excited manics occasionally skipped a period.

The most characteristic reaction of the 43 patients observed in the depressive phase was amenorrhea, which was directly associated with the duration of this phase and the intensity of the mood. As the depression became more pronounced, the intervals between the periods became longer and the flow became scant and of shorter duration. Finally a period of amenorrhea intervened. The degree of psychomotor retardation appeared to be the essential index of whether the menstrual periods were to be delayed or absent.

In the psychoneurotics, dysmenorrhea was a most distressing symptom. Those who were markedly depressed and displayed suicidal tendencies generally had amenorrhea over periods ranging from one month to a year. This was similar to the reaction noted in the acute depressions. When menstrual irregularities occurred, a tendency toward schizophrenic traits was evident.

Menstrual dysfunction is only one of many physiological ways in which the endocrine system expresses emotional disturbance in a disordered personality. If the emotional stress is reduced, the menstrual dysfunction will be corrected without specific drug therapy unless there is some underlying endocrine or structural disease. While such disease may be present, it is exceedingly rare in functional disorders of personality.

Treatment directed toward improving the general health and alleviating emotional distress was productive of the best results in menstrual dysfunctions associated with disorders of personality. In no case did endocrine therapy directly shorten the period of amenorrhea or increase a diminished menstrual flow. In cases of dysmenorrhea and of profuse or prolonged menstruation, antuitrin-S gave subjective relief and appeared to diminish the flow, but did not shorten the period.

ALBERT W. HOLMAN, M.D.

Weibel, W.: *Non-Venereal Infectious Processes in the Female Genital Organs* (Ausgewählte nicht-venerealer Infektionsprozesse am weiblichen Genital). *München. med. Wchschr.*, 1934, 1: 430.

Weibel reports his experiences with certain non-venereal infections of the female genital organs. He first discusses the diagnosis and treatment of genital tuberculosis. He states that this condition is much more common than is generally believed. The diagnosis of adnexal tuberculosis can be made easily when ascites is present, but cannot be based entirely on the well-known nodules in the pouch of Douglas. In a doubtful case the author facilitated the diagnosis by performing a posterior celiotomy and inspecting and palpating the pouch of Douglas. He considers curettage of the uterus dangerous as in 1 case he saw it followed by a fatal miliary dissemination. He states that while the cervix is very rarely involved in genital tuberculosis, he has seen 2 cases of cervical involvement.

For the treatment of genital tuberculosis in the female, Weibel first recommends heliotherapy and roentgen irradiation, the latter in frequently repeated, not too massive doses. He states that the amenorrhoea which may result from the roentgen irradiation is only of advantage as women with genital tuberculosis are usually sterile. Exploratory laparotomy is occasionally necessary, but extensive interventions should never be undertaken as they are associated with the danger of intestinal fistula formation.

Weibel next discusses manual separation of the placenta in the presence of fever. He cites the statistics of Katz, Heidler, and Steinhardt and those published by himself from Prague. In order to eliminate the error inherent in statistics based on small numbers of cases, he combined the 3 series of statistics after discussing them individually. There were 131,794 labors with manual separation of the placenta in 1,762 (1.3 per cent). One hundred and seventy-three (10 per cent) of the placental separations were done in the presence of fever. The uncorrected mortality in the cases of placental separation in the presence of fever was 16 per cent (28 deaths) and the corrected mortality, 8 per cent (14 per cent). This mortality indicates that complete vaginal extirpation of the uterus without previous attempts at separation of the placenta is absolutely justified. Removal of infected remains of the placenta is also extremely dangerous, as is shown by a case with a fatal course. Even careful digital removal of loosely attached placental remnants is sufficient to cause a fatal infection. From the fatal termination in his case the author concludes that even in the cases of very young women total vaginal extirpation of the uterus should be done when there is partial or total retention of the placenta in the presence of uterine infection. He states that the morbidity of manual separation of the placenta in the presence of fever ranges from 42 to 62 per cent.

Weibel next discusses the treatment of febrile abortion. He states that the usual classification into

afebrile febrile, and complicated cases is insufficient as the complicated cases may be afebrile or febrile and complicating changes of the most varying character may be next to the uterus. The problem as to whether febrile abortion should be treated actively or conservatively is a subject of dispute. There are good arguments for both types of treatment. The author has changed from active to conservative treatment. In his cases of febrile abortion treated by purely conservative measures the mortality was 4.2 per cent whereas in afebrile cases it was only 0.44 per cent. In cases of febrile abortion operated upon primarily the mortality was 3.4 per cent whereas in 103 cases in which the patient was first kept under observation for a while and then treated surgically there were no deaths. In complicated cases of febrile abortion the mortality was 6 per cent whereas in complicated cases of afebrile abortion there was no mortality.

(H. Siegfried) LOUIS NELWELT M.D.

Bierman W. and Horowitz F. A. The Treatment of Gonorrhea in the Female by Means of Systemic and Additional Pelvic Heating. *J. Am. Med. Ass.* 1935 104 179.

Bierman and Horowitz have found that elevation of the systemic temperature with the simultaneous addition of pelvic heat constitutes a rapidly effective method of treating gonorrhea in the female. Its value is based on the fact that the gonococcus can be killed by temperatures that are not injurious to body tissues.

The authors review the cases of twenty three female patients with gonorrhea whose subsequent course they were able to follow closely. Ten of the patients had had previous local chemical treatment which failed to cause disappearance of the gonococci. In eighteen of the twenty three cases there was salpingitis. In six this was in the subacute stage and in twelve in the chronic stage. In all of the cases with salpingitis gonococci were found in the smears of the secretions obtained from the cervix. In

nine they were found also in the urethra. Of the five patients without salpingitis two had gonorrheal arthritis, one acute cervicitis only, one urethritis with Bartholin's and one gonorrheal cervicitis, urethritis, and proctitis.

In the authors' technique pelvic diathermy is employed while the patient lies within a hood containing carbon filament lamps. The additional use of a cabinet surrounding the body which contains photothermic lamps causes a rapid elevation of the general temperature because of the prevention of heat loss from the body and the introduction of further heat energy into it. This combined use of heat by diathermy and phototherapy is usually sufficient to cause elevation of the systemic temperature to from 103 or 106 degrees F with a one and one half hours. The vaginal temperature is then easily raised to 111 or 112 degrees F. These temperatures are maintained for from three to four hours. The treatment is painless but there is discomfort from the systemic fever.

Constant watchfulness throughout treatment is imperative. In nineteen of the twenty three cases reviewed an average of less than three treatments caused complete disappearance of the gonococci. In two of the remaining cases the cervix was freed from gonococci after two treatments but not the urethra. In these two cases coagulation of Skene's ducts cleared up the urethra. A case of cervicitis treated once was not freed from gonococci. In one case re-infection of the urethra occurred from a persistent gonorrheal proctitis. Patients with salpingitis or urethritis were relieved from pain after one or two treatments. Abnormal discharges rapidly ceased. Inflammatory masses subsided but in five of the eighteen cases of salpingitis some adnexal enlargement persisted.

As the treatment is strenuous patients with cardiovascular or pulmonary disease should not be subjected to it. In none of the authors' cases were there any serious ill effects.

ALBERT M. VOLLMER M.D.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Eymer, H.: The Early Diagnosis of Extra-Uterine Pregnancy (Die Frühdiagnose der Extrauterin-graviditæt) *Med Welt*, 1934, p 615

The early recognition of tubal pregnancy is of special importance to the general practitioner, for if the condition is not recognized early it may lead to serious complications and improper treatment may have serious consequences. Extra-uterine pregnancy is relatively frequent. In the 15,000 obstetrical cases in Heidelberg in the last sixteen years its incidence was 3 per cent. Recently an increase in its frequency has been noted.

The author discusses the differential diagnosis in great detail. He states that recognition of an undisturbed ectopic pregnancy is usually impossible. The first symptoms of a disturbed ectopic pregnancy are bleeding and characteristic laterally located pains. When the history is taken the patient should be especially questioned regarding such symptoms. The findings of examination are often vague. Examination under anesthesia is advisable only in the course of preparation for operation as it may cause severe hemorrhage. If a mole has developed, it is often palpable as a soft, friable, and always unilateral tumor in contrast to the elastic and often bilateral tumors of inflammatory origin. The latter usually cause persistent pain, whereas the pain of tubal pregnancy is usually of a cramp-like character. Typical of mole are rapid fluctuation in size and a tendency to extend posteriorly which may suggest retroflexion of a pregnant uterus.

Eymer does not recommend colpopuncture as it does not always aid in the diagnosis, other conditions causing similar bleeding, and it is associated with great danger of causing infection. He states that even the Aschheim-Zondek test is not altogether reliable. However, when extra-uterine pregnancy is suspected on the basis of positive urinary findings, operation should be done, especially if the uterus has been previously emptied by curettage. Severe internal hemorrhage and the presence of peritoneal irritation confirm the diagnosis. Other conditions causing similar hemorrhage also call for operation.

In conclusion the author states that if the general practitioner bears extra-uterine pregnancy in mind he will be able to recognize it earlier and more frequently (KURT W. SCHULZE) PHILIP SHAPIRO, M.D.

Havlásek, L.: Intestinal Obstruction and Pregnancy (Darmverschluss und Schwangerschaft) *Čas lékařský*, 1934, pp 1312, 1344

On the basis of the histories of 6 cases of ileus, 5 of which were observed among 20,230 cases of advanced pregnancy seen during the past ten years at the

Mueller Clinic, the author calls attention to the importance of timely surgical treatment of this condition which in its early stages is often very difficult to diagnose. In 2 of the cases reviewed the diagnosis of "pregnancy ileus" was made when the symptoms quickly ceased on evacuation of the uterus. In one of these cases the uterus was emptied in the eighth month by vaginal cesarean section. In the other, delivery was effected, after protracted labor and the failure of high forceps, by perforation of the head which was obstructed in the narrow pelvis. Of the 4 other cases, 1 was that of a twenty-four-year-old primipara in the fourth month of pregnancy in whom strangulation of the jejunum was caused by a cicatricial band formed after an appendectomy performed two years previously. The strangulation was relieved by liberation of the band and the pregnancy went to term. In the 3 other cases 2 in which the ileus developed in the seventh month and 1 in which it developed in the sixth month of pregnancy—death resulted because operation was delayed too long by conservative treatment or the induction of premature delivery. The condition in the last case, that of a multipara thirty-seven years old who developed volvulus of the sigmoid mesocolon with strangulation of the uterus in the sixth month of pregnancy, is extremely rare.

The author believes that the primary cause of pregnancy ileus is a disturbance of the hormone balance due to a decrease in the tonus of the smooth musculature resulting from changes in the sympathetic nervous system (hypotony or atony of the intestinal musculature). The secondary causes, he believes, are mechanical disturbances produced by the enlarging uterus. He states that the pyelitis of pregnancy is of no importance in the causation of the ileus. It is more apt to develop secondarily as the result of hematogenous infection of the kidneys after prolonged intestinal obstruction.

Early surgical treatment (laparotomy) is to be preferred under all circumstances to obstetrical treatment (interruption of the pregnancy) as it permits recognition and removal of the causes of the obstruction with, in some cases, preservation of the pregnancy (STEPHAN SOMMEF) JACOB E. KLEIN, M.D.

Wickramasuriya, G. A. W.: The Grave Risks of Hookworm Disease as a Complication of Pregnancy. *J Obst & Gynec Brit Emp*, 1935, 42: 217.

In districts scourged by hookworm, hookworm disease is the most common cause of repeated miscarriage and abortion. It is also a potent factor in maternal and fetal mortality, causing 27 per cent of the total maternal mortality in hospitals and 13 per cent of the fetal mortality. Early recognition

and energetic treatment are essential for successful pregnancy particularly if the hemoglobin is below 60. Toxic manifestations are frequent in pregnant women suffering from hookworm disease particularly in the second half of pregnancy. The toxemia is of either an edematous (renal) type or simple non edematous type. Pregnant women with hookworm disease should all be considered to have a lowered kidney reserve if not latent or occult nephritis since the majority exhibit evidences of impairment of renal function. Repeated pregnancies complicated by hookworm disease frequently result in permanent kidney damage. Cardiac failure is the cause of death in most cases and may occur at any time even in the puerperium. The prognosis is greatly influenced by the cardiac damage and the severity of the anemia.

HENRY S. ACKEN, JR., M.D.

LABOR AND ITS COMPLICATIONS

Goussakoff L. Considerations on Pubiotomy (Quelques considerations sur la pubiotomie) *Rev franç de gynéc et obst* 1935 30 183

The author states that while the technique of pubiotomy is well known the operation having been performed extensively since about 1900 he believes that attention should be called to several points which are of importance for the attainment of the best results.

He states that the bladder should of course be emptied just prior to the operation. The incision should be made through the left ramus of the bone with a Gigli saw introduced by the subcutaneous route. Trauma to the head of the fetus must be avoided. Care must be taken also to prevent injury of the vaginal mucosa because a direct communication between the genital canal and the open wound in the bone will favor infection and exert an unfavorable influence on the healing of the incision. When the section of the bone is about completed assistants should make pressure on the trochanters of both femurs to prevent a sudden strain on the sacro-iliac joints and tearing of the vagina or the soft parts about the symphysis pubis. The gap between the two ends of the bone does not exceed the width of two fingers. Ordinarily pressure in the region of the wound is sufficient to control hemorrhage but occasionally a vaginal tampon may be necessary. Hematoma of the labia majora not infrequently follows but is usually of no serious consequence. Recently the author has allowed labor to proceed normally without intervention if there is no urgent need for rapid delivery. He believes that this practice has reduced the incidence of injury to the soft parts and the descending head.

If the diameter of the superior strait is less than 7 cm. pubiotomy is contra indicated and cesarean section must be performed. Pubiotomy is contra indicated also when the pelvic measurements are normal if there is a marked disproportion between the size of the head and the pelvic inlet due to

hydrocephalus or some other cause. It is suitable only in the cases of multiparas because in women who have borne children there is less danger of rupture of the soft parts. Dilatation must be complete before the operation. The presence of infection or large varicosities is a contra indication.

Attention is called to statistics from various clinics regarding the relative merits of cesarean section and pubiotomy. In 1,095 cases of pubiotomy collected by Geede the maternal mortality was 1.7 per cent and the fetal mortality 7.8 per cent. Other obstetricians have published reports on as many as 234 cases in which there was no mortality. In Goussakoff's series of 64 cases 1 of the mothers and 4 of the infants died. MARSH W. POOLE, M.D.

PUERPERIUM AND ITS COMPLICATIONS

Colebrook L. The Treatment of Puerperal Fever by Antistreptococcal Serum. *Lancet* 1935 223 1083

From a comparison of sixty nine cases of puerperal fever treated with antistreptococcal or antiscarlatinal serum before admission to Queen Charlotte's Hospital London and cases not so treated the author concludes that there is no trustworthy clinical evidence that such treatment has a specific curative effect and that in puerperal infections caused by hemolytic streptococci it may sometimes have an unfavorable effect. His experience has taught him that the best interests of the patient suffering from a hemolytic infection are served by non interference with her immunizing mechanisms. ALBERT W. HOLMAN, M.D.

Ford R. A. Autogenous Infection in Relation to Puerperal Morbidity. *J Obst & Gynec Brit Emp* 1935 42 297

The author cites cases which indicate that puerperal infection may be caused by a latent septicemia or bacteremia or some other extragenital source of infection and to coliform bacteria. He discusses resistance to infection and reports results of investigations with the Dick test. ROLAND S. CROV, M.D.

Moon A. A. and Gilbert B. A Study of Acute Mastitis of the Puerperium. *J Obst & Gynec Brit Emp* 1935 42 263

Seventy five per cent of the patients whose cases are reviewed by the authors were primiparas. Acute mastitis of the puerperium was found to occur chiefly in hospitalized patients. In distinct obstetrical cases it was rare. It was most frequent in the last two and the first two months of the year. Interference with labor was apparently a causative factor of some importance. In all of the cases in which a bacteriological examination was made the offending organism was the staphylococcus aureus.

Only about 25 per cent of the cases showed spontaneous resolution. The remainder required incision and drainage. This operation gave the best results when it was delayed until complete localiza-

tion had been established. Cracked nipples were not found to be of importance as a causative factor.

There was a fetal mortality of 3 per cent and a fetal morbidity of 8 per cent due to intestinal infection. The authors advise removing the baby from both breasts as soon as the diagnosis of acute mastitis is established.

HENRY S ACKEN, JR

Eades, M. F.: Massive Collapse of the Lung Following Childbirth. A Report of Two Cases. *New England J. Med.*, 1935, 212 813

In reporting two cases of massive collapse of the lung following childbirth the author states that this complication is either rare or rarely recognized.

The condition is most likely to be confused with postpartum pulmonary embolus or pneumonia. Because of the extremely favorable prognosis of massive collapse as compared with that of pulmonary embolus and pneumonia, an accurate diagnosis is of great importance. The chief features upon which the clinical diagnosis is based are the usually sudden onset, the often acute respiratory embarrassment, the massive pulmonary involvement, and the cardiac displacement. Roentgen examinations are of value for confirmation of the diagnosis and observation of the progress of re-inflation.

The simplest and most satisfactory treatment consists in turning the patient from side to side every two hours to improve drainage and loosen the obstructing mucus mechanically. The prognosis is good as spontaneous recovery is the rule.

ROLAND S. CROX, M.D.

MISCELLANEOUS

Clemmer, J. J., and Hansmann, G. H.: The Origin of Chorionepitheliomas and of Emboli from Trophoblastic Fragments Enclosed in the Myometrium. *Am. J. Obst. & Gynec.*, 1935, 29. 526.

After describing a retrogressing hemorrhagic pulmonary lesion containing placental tissue, the authors discuss the theory of pulmonary metastases of chorionepithelioma. In this discussion they state that, following a brief period of pregnancy, the endometrium rapidly extends over the placental site, entrapping bits of trophoderm located deeply in the myometrium. Such placental remnants are not uncommon. As a rule they are rapidly absorbed, but in some cases they lie dormant for long intervals.

The authors then report two cases of chorionepithelioma in which the tumor apparently originated deeply in the myometrium. This location made it inaccessible to the curette and consequently retarded the diagnosis.

In conclusion the authors state that when clinical symptoms suggesting chorionepithelioma are associated with a strongly positive Aschheim-Zondek or Friedman reaction and there is no evidence whatever of placenta or a placental neoplasm in uterine curettings, surgical exploration should be done as it may often result in the early diagnosis and adequate treatment of an intramural newgrowth of placental origin.

EDWARD L. CORNELL, M.D.

GENITO-URINARY SURGERY

ADRENAL KIDNEY, AND URETER

Bull P The Treatment and Prognosis of Hypernephroma *Acta chirurg Scand* 1935 76 270

Bull reports on thirty seven cases of hypernephroma. Twenty-one of the patients were males and 73 per cent were between forty and fifty nine years of age. One female patient was eighteen years old.

Nephrectomy was done in twenty six of the cases, with death in two a mortality of 7.7 per cent. One of the deaths was due to uremia (ether anesthesia) and one to pulmonary embolism occurring a few hours after the operation. Twenty of the nephrectomies were extraperitoneal and six were intra-peritoneal. The author discusses the advisability of always beginning the operation with ligation of the vessels to prevent metastases.

He states that irradiation with the roentgen rays and radium has been used in a few cases but has not yielded satisfactory results.

Twenty three of the patients whose cases are reviewed were operated upon more than three years ago. Of these eleven (47.8 per cent) are still alive but only five are free from recurrence. The latter were operated upon thirteen, twelve, eight, eight, and three and a half years ago respectively. Two of the patients who survived for more than three years died of recurrence after seven and four and a half years respectively and two, after six and three quarters and four years respectively. Two are living with a recurrence after three and five sixths and twelve years respectively. The patient who developed a recurrence after twelve years had a large cystic growth weighing 10.7 kgrm.

The thirteen patients who died of recurrence after nephrectomy lived for from two and three-quarters month to six and three quarters years. The average survival of these patients was two years after the nephrectomy and three years after the onset of the clinical symptoms.

Ten patients who were not treated by nephrectomy survived for from one to three and a half years. The average length of their survival from the first symptoms was two years.

One patient died fifteen hours after pyelography with the injection of 20 c. cm. of a 25 per cent solution of sodium bromide.

One patient with a glandular metastasis the size of a walnut is still living after thirteen years. All of the five patients with thrombosis of the renal vein died of recurrences. The prognosis was worse in the cases of atypical hypernephroma than in those of typical hypernephroma. One patient with a metastasis in the femur was free from recurrence nearly two years after disarticulation of the femur.

Sacco E The Value of Neatoscopy in the Diagnosis of Pyelo Ureteral Conditions (Valore della neatoscopia nella diagnosi delle affezioni pieloureterali) *Arch ital di urol* 1935 1 277

Fenwick's classical work on the value of ureteral neatoscopy in obscure diseases of the kidney was published in London in 1903. Since that time this method of examination has lost favor to some extent as many urologists hold that it has been replaced by more modern methods of diagnosis of conditions of the renal pelvis and ureter. However the author believes that it is still of great importance and that its value is increased rather than decreased by the aid of other methods. In support of this opinion he reports nineteen cases with roentgenograms showing the typical changes in the orifices of the ureters in various pathological conditions, and gives the protocols of animal experiments which show the changes in the duration rhythm and force of the ureteral ejaculations as related to pathological conditions. The article is followed by an extensive bibliography.

AUDREY GOSS MORGAN MD

Calzolari, T Studies on the Capillaries of the Cortex of the Kidney. The Behavior of the Capillaries of the Cortical Zone After Enervation Sympathectomy and Decapsulation (Studi su capillari della corticale del rene. Comportamento dei capillari della zona corticale del rene dopo enervazione simpaterotomia e decapsulazione) *Arch ital di urol* 1935 12 160

Calzolari studied the capillaries of the renal cortex in the guinea pig after denervation of the renal peduncle, chemical sympathectomy of the renal vessels by means of phenol and decapsulation. He attempted to determine (1) whether changes are produced in the capillaries by variations in the renal innervation and (2) whether the vascular changes revealed by other methods of research are reflected in the capillary system. He states that capillaryoscopic studies are of importance because recent researches appear to have rendered previous conclusions doubtful and because the mechanism of improvement following operations to relieve painful conditions of the kidney or improve renal function is not yet fully known. He believes that the studies reported in this article were the first capillaryoscopic investigations of the renal cortex.

Three series of experiments on ten guinea pigs each were conducted with Salvini's sonopneustoscope which permits manometric readings of capillary pressure under microscopic control.

The results of denervation were negative. After this procedure the capillaroscopic picture remained unchanged and the manometric variations were within the normal limits. These findings are logical

in view of the possibility that the capillaries have an independent contractility and that the nerve fibers do not extend to the capillaries

After chemical sympathectomy the morphological character of the loops was unchanged, but the maximal pressure in all cases was definitely below the pre-operative level. The latter finding agrees with that after sympathectomy of the limbs.

Decapsulation caused the most pronounced changes. At first the loops were narrower, reduced in size, and less flexible, later they appeared fragmented, giving the surface a granular appearance, and their number seemed to be considerably increased. The pressure, particularly the maximum pressure, rose. The picture was clear and persistent. It is difficult to say whether the changes were due immediately to trauma or indirectly to sympathetic stimulation. The operative trauma was sufficient to account for the thinning and the rise in pressure.

The article includes photographs, tables, and graphs, and a bibliography. M E MORSE, M D.

Calzolari, T.: Studies of the Capillaries of the Cortex of the Kidney. The Behavior of the Capillaries of the Cortical Zone in Hypertrophy of the Kidney (Studi sui capillari della cortice del rene. Comportamento dei capillari della zona corticale nei processi di ipertrofia del rene) *Arch ital di urol*, 1935, 12 425.

The author performed nephrectomy on guinea pigs and made capillaroscopic and tonometric examinations of the vessels of the cortex of the remaining kidney. He found that the vessel loops did not undergo any change in form or arrangement, but that the intracapillary pressure rose steadily for about forty-eight hours and then returned gradually to normal. An increase in the weight of the kidney was observed at about the ninth day. This was not so much a true hypertrophy as a hydronephrosis, probably of dynamic origin. The vessel changes were chiefly those of active and passive hyperemia of the organ.

The maximum pressure coincided with the phase of most marked hyperemia of the periphery of the cortex immediately beneath the capsule. Histological examination showed hyperemia and infiltration. There was moderate hypertrophy of the glomeruli, but it is impossible to say that there was a definite hyperplasia. The compensation after nephrectomy is evidently functional. There is probably an anatomical hypertrophy but in the nature of an increase in size and possibly in the number of the pre-existing epithelial cells. New formation of gland cells progressing to complete functional differentiation cannot be seen. AUDREY GOSS MORGAN, M D

Gouverneur, R., and Cachin, C.: The Operative Indications in Renal Ptosis (Les indications opératoires dans les ptosis rénales) *Bull et mém Soc nat de chir*, 1935, 61 575

In the authors' opinion, poor results from fixation of the kidney in cases of ptosis are due not so much

to defects in the operation as to incomplete pre-operative study and poorly carried out treatment.

The fundamental difficulty in ptosis of the kidney is due to mechanical factors which cause also numerous secondary problems. Examples of the former are kinks in the ureter and pressure on the ureter by the lower pole of the kidney which lead to ureteral dilatation, dilatation of the renal pelvis, hydronephrosis, and pyonephrosis. Pain is caused by pressure on the nerve plexus, venous congestion, or infection.

Determination of the indications for operation requires clinical observation, bacteriological examination of the urine, tests of renal function, and pyelography or urography with the patient in the vertical position.

In some cases displacement of the kidney occurs suddenly during violent effort. The pain is acute and radiates from the lumbar to the inguinal region. It is relieved by pushing the ptosed kidney back. Operation is indicated because the condition recurs during effort. This type is not common. In other cases, the pain is not entirely relieved by reduction of the kidney, but comes on during the moderate effort of walking or running down stairs. In such cases there are crises of pain due to venous congestion. Often the patient suffers also from abdominal pain, digestive disturbances, and palpitation.

Two other types of cases are: (1) those in which the renal displacement causes no discomfort, and (2) those in which the renal ptosis is part of a generalized ptosis of all the abdominal viscera. In such cases operation is contra-indicated.

Before operation, urological examination must show the kidney to be free from infection. If pyelonephritis is present, an attempt should be made to clear it up. Unless it is cleared up, fixation of the kidney should not be attempted. Hydronephrosis which is marked and not due merely to dilatation of the pelvis from ureteral obstruction is a definite contra-indication to fixation of the kidney. Great care should be exercised in determining the function of the ptosed kidney before operation.

The authors recommend tenebryl as the contrast medium of choice for pyelography.

In the twenty-three reviewed cases in which the authors operated for renal ptosis, the results were uniformly good. Several of the patients had previously been operated upon for appendicitis, cholecystitis, and other conditions without relief.

MARSH W POOLE, M D

Blanc, H., and Guérin, P.: Considerations on a Case of Bilateral Hydronephrosis in a Pregnant Woman (Considérations sur un cas d'hydronephrose bi-latérale chez une femme enceinte) *J d'urolog. méd. et chir.*, 1935, 39. 208

The case reported was that of a woman twenty years of age who was in the third month of pregnancy at the time of the first examination. Since the age of twelve the patient had had attacks of pain in the region of the left kidney during which an in-

crease in the size of the kidney had been noted. At the time of the examination the kidneys were neither palpable nor painful. On ureteral catheterization and separation of the urine from the two kidneys the urine from the right kidney was found to be normal in amount and concentration and that from the left kidney deficient. The phenolsulphonphthalein test showed practically no elimination on the left side and elimination of only 31 per cent on the right side. The uroteropyelogram on the left side revealed a large hydronephrosis. Nephrectomy was done. The ureter was found normal and the obstruction of the renal pelvis with resulting hydronephrosis was discovered to be due to several abnormal renal blood vessels.

As the elimination of phenolsulphonphthalein by the remaining kidney was still below normal (31 per cent) intravenous pyelography was done. The pyelogram showed ptosis of the kidney, dilatation and kinking of the ureter, and hydronephrosis. Nephropexy was done and the ureter freed from the fibrous adhesions that bound it down. No abnormal blood vessels were found. No urinary infection developed, and the pregnancy progressed normally. The patient was kept under constant observation. After delivery a streptococcus infection developed in the subcutaneous tissues in the abdominal wall. This was drained. It had no relation to the kidney or perirenal tissues. Colon bacillus cystitis and pyelitis also developed and were treated by renal lavage. The patient made a good recovery. The excretion of phenolsulphonphthalein increased to 45 per cent and the pyelogram showed a marked diminution of the dilatation of the pelvis and calyces. The patient has now been well for a year.

The authors state that in this case the hydronephrosis was evidently congenital on both sides, but on one side was due to abnormal blood vessels obstructing the pelvis of a kidney which was in normal position and had an intact ureter, and on the other side was due to ectopia of the kidney and ureteral abnormalities. They call attention to the value of the phenolsulphonphthalein test in indicating a lesion of the right kidney which was not indicated by chemical analysis of the separate urines.

There was undoubtedly grave danger of the development of pyelitis and pyelonephritis in this case especially during pregnancy. Operation to relieve the urinary obstruction was indicated definitely. The pregnancy was not a contra indication. The pregnancy was not interrupted by the operations, and the danger of urinary infection was greatly reduced. When infection developed after delivery it could be successfully treated by pelvic lavage. The results clearly show the value of nephropexy in cases of ptosis and hydronephrosis in a single kidney.

ALEX M. MEYERS

Brandis von Cicatricial Nephralgia (Nephralgia cicatricea). *Zentralbl. f. Chir.* 1935 pp. 461-674.

Cicatricial nephralgia, painful cicatrization of the capsule of the kidney, was first described by Rovsing

On histological study Grossmann found all stages of inflammation. The renal parenchyma is normal. The diseased capsule cannot be peeled off. The cause is a healed cortical abscess such as may be formed as the result of pyelonephritis, lymphogenous infection of the kidney from adjacent organs, adnexal conditions and hematogenous infection of the kidney from distant foci of inflammation such as angina. A relationship of cicatricial nephralgia to the ureic acid diathesis has also been suggested (von Illyes). Involvement of the sympathetic nervous system is necessary for the development of the condition. In the renal capsule there are two nervous systems belonging to the sympathetic system. Some of the nerves have a vaso-motor function whereas others surround the entire kidney in a fine reticulum (*nervi proprii*). When as the result of marked congestion of the organ the capsule becomes tense, the latter becomes irritated and set up activity of the vasoconstrictors which shuts off the ingress of blood. As these nerves also transmit sensory stimuli they are of importance in the development of pain. It is especially in persons with a highly sensitive sympathetic system usually hypersensitive females that the kidneys respond to irritation with painful vascular spasms. Only in such persons does such a stimulus arise from a scar in the renal capsule. This does not occur in a normal organism.

Cicatricial nephralgia is characterized by unilateral dull or colicky pain. The urine is negative except possibly for isolated erythrocytes. Renal function is normal and the pyelogram is negative. The Rehn test is always negative. It is impossible to draw conclusions regarding the mobility of the kidney from roentgen examination with the patient in either the upright or recumbent position as according to Bors the mobility of the kidney is affected only when cicatrization has occurred also in the perirenal fatty tissue, and such extensive cicatrices are not found in cicatricial nephralgia. The boundaries between the latter condition and the parenchymatous disease known as nephritis dolorosa are not easily defined. Fischer states that in simple capsular disease pain is produced only by congestion. In parenchymatous disease there is pain with simultaneous hemorrhage. The author reports two cases. In both cure was obtained by decapsulation. The beneficial effect of this operation is due to the removal of the *nervi proprii* in the capsule.

(RATTEK) LOUIS NEUWELT M.D.

Bothe A. E. Tissue Changes in Mixed Tumors of the Kidney After Roentgen Therapy. *J. Urol.* 1935 33: 434.

The laws governing cellular radiosensitivity have been the subject of considerable study. The accumulated clinical, pathological and radiological observations concerning radiosensitivity have been found of great value in the treatment of different types of tumors. In recent years considerable clinical evidence of the radiosensitivity of mixed tumors of the kidney has been observed, but there

has been very little pathological investigation to determine the tissue changes occurring in these tumors

Stewart has defined radiosensitivity as that combination of circumstances inherent in a tumor or the host which permits marked or total local tumor regression under doses of irradiation sufficiently small to preserve the integrity of the tissues of the host. Although the mechanism of irradiation destruction is somewhat vague, there is considerable evidence that different cells show different degrees of sensitivity to roentgen therapy

In a discussion of the radiosensitivity of tumor cells many general factors must be considered. If the patient is not in good general condition, the results of irradiation are poor. All investigators agree that anemia and cachexia impair the effect of the therapy. When the patient is undernourished, his condition is usually made worse by irradiation and the tumor remains unchanged. The results of irradiation are poor also in the presence of active infection and of an over-production of secretion as mucin. Indolent connective tissue due to successive inadequate treatments greatly increases resistance

In general, the irradiation of mixed tumors of the kidney has a definite destructive effect upon the embryonal connective tissue and not the epithelial cells. Tumors of this type with an excessive predominance of epithelial cells will be affected very little by irradiation

The embryonal sarcomatous cells of mixed tumors of the kidney are radiosensitive whereas the epithelial cells of such tumors are radioresistant. When mixed tumors of the kidney are irradiated before they are removed surgically, they are usually reduced in size. The reduction following irradiation appears to be dependent upon the amount of embryonal sarcomatous tissue present. Irradiation of the tumor does not completely destroy all the malignant cells. Mixed tumors of the kidney should always be given sufficient pre-operative irradiation and should always be removed after irradiation. Delay of operation results in subsequent growth and metastasis

C. TRAVERS STEWART, M.D.

Guliani, G. M.: Hematuria from Cystic Ureteritis in Pregnancy (Ematuria da uretente cistica in gravidanza). *Arch ital di urol*, 1935, 12 463

The patient whose case is reported was a woman twenty-two years old who was married at the age of nineteen years. At the beginning of the fifth month of her first pregnancy she had profuse hematuria for about two weeks and throughout the rest of that pregnancy the urine was bloody at times for a few days. During her second pregnancy she again had hematuria. In her third pregnancy she came for treatment for hematuria in the fourth month.

Roentgen examination with uroselectan showed the left side to be normal. On the right side, excretion was delayed, the ureter was dilated throughout its course and its walls appeared to be rigid, the renal pelvis was slightly dilated, and the two superior calyces and the inferior calyx were not injected. The

hematuria was so copious that abortion was considered necessary. After the abortion the hematuria continued for four or five days. Three weeks later the patient returned to the hospital. The hematuria had stopped, but the urine still contained red cells. It was free from bacteria. Ureteronephrectomy was performed. Examination showed the kidney to be normal. The wall of the ureter was three times as thick as normal, and the ureteral lumen was enlarged. The wall was infiltrated with round cells. In the submucosa there were groups of cells that had assumed the appearance of lymphatic follicles (epithelial nests of Brunn). These had undergone degeneration at the center with the formation of cysts. The arteries passing to the ureter were also involved in the colloid degeneration.

Cases of cystic degeneration of the ureter occurring in the absence of pregnancy and not causing clinical symptoms have been reported. In the author's case the cystic ureteritis evidently preceded pregnancy as the patient had hematuria during her first pregnancy. However, there are factors in pregnancy which tend to cause hematuria in such cases. On account of the action of the hormones of the corpus luteum, the anterior lobe of the hypophysis, and the decidua there is a greater accumulation of blood in the genito-urinary tract. This accumulation may result in hemorrhage so severe as to cause death or to necessitate abortion followed by ureteronephrectomy.

AUDREY GOSS MORGAN, M.D.

GENITAL ORGANS

Moore, R. A.: The Morphology of the Small Prostatic Carcinoma. *J Urol*, 1935, 33 224

In 375 consecutive routine autopsies on adult males Moore found 52 clinically unrecognized small prostatic carcinomas in addition to 11 prostatic carcinomas that had been diagnosed before death. He concludes that carcinoma of the prostate occurs more frequently with advancing age and in the ninth decade reaches an incidence of 29 per cent. It is definitely associated with senile atrophy. While it is predominantly a lesion of the posterior lobe, it may arise in any portion of the gland.

Perineural lymphatic invasion in the capsule is one of the earliest changes, whereas invasion of the vesicles and distant lymphatic invasion occurs late.

FRANK M. COCHEMS, M.D.

Young, H. H.: Radical Cure of Carcinoma of the Prostate. *Am J Surg*, 1935, 28 32

The author describes his technique for the radical treatment of carcinoma of the prostate, supplementing his description with illustrations. The procedure consists of resection in one piece of the entire prostate with its capsule, the entire urethra with a portion of the membranous urethra, a cuff of the bladder, both seminal vesicles, and the ampulla of the vas.

Young states that any very hard nodule or area of the prostate which is palpable through the wall of

the rectum and is found on roentgen examination not to be a calculus should be approached by the perineal route for close inspection and frozen section. When the diagnosis of carcinoma is doubtful after surgical exposure of the prostate tissue should be obtained from a suspicious area and a frozen section made immediately. If the lesion proves to be benign a simple perineal prostatectomy should be done. If the lesion is found to be malignant, the radical procedure is the treatment of choice. Young's earlier operations were often followed by incontinence, but since his adoption of a technique preserving the anterior layer of fascia which crosses the pelvis in front of the prostate postoperative urinary control has usually been excellent.

J. SYDNEY RITTER, M.D.

Oberndorfer: The Specific Malignant Testicular Tumor Seminoma (Die spezifische maligne Hodengeschwulst Seminom.) *Schweiz. med. Wchnschr.* 1935 1: 204

The seminoma occurs most frequently in early and mature adult life, usually during the third to the fifth decades. In old age it is extremely rare. Tumors occurring in childhood have a more embryonal character. The greater frequency of the seminoma in mature adult life the time of greatest function of the testicle indicates the relationship of the tumor to the spermatogenic apparatus. The retained inguinal and abdominal testicle is no more frequently the site of tumors than the normally situated testicle. Trauma is not of great importance in the development of seminomas. Of the authors twenty five cases it was a factor in only three.

At first the seminoma goes through a comparatively long period of slow growth. The first metastases are usually inguinal and iliac. Often, however, they have a very wide distribution such as is found only in cases of the most malignant types of tumor. As many seminomas are very roentgen sensitive the author believes that the prognosis is not always hopeless even when metastases are present, and that after total extirpation of the neoplasm the involved area should be treated by roentgen irradiation.

The seminoma has its origin in the spermatogenic cells of the seminal tubules of the testicle. These possess totipotent differentiating ability. Therefore from these cells just as from unfertilized ova tumors containing derivatives of all three germinal layers may arise. This explains why seminomas sometimes show areas of a chorionepitheliomatous or other character and chorionepitheliomas show areas of a purely seminomatous character. It indicates that the seminomas are the most undifferentiated, i.e. the lowest form of the large group of the teratoid sex gland tumors from which all the more highly differentiated forms of tumors may be derived. According to this theory the seminoma the true carcinoma of the testicle is of special significance in the science of tumors as it shows that every specifically differentiated testicular tumor may develop from the simple spermatogenic cell. This

is evidenced also by the demonstration of a hormone function of the tumor. In many cases of seminoma the anterior pituitary reaction with the patient's urine is positive. The amount of prolactin excreted in the urine is increased. decreases with recession of the tumor following X-ray irradiation or castration and increases again with the formation of metastases. As the formation of prolactin can be attributed only to the tumor cells and as only the specific spermatogenic testicular cells come into consideration as hormone formers, the hormone reaction proves that the seminoma cells are true spermatogenic cells. Therefore in doubtful cases of testicular tumor a hormone test of the urine should be made to confirm the diagnosis. If the reaction is strongly positive the suspicion of a malignant testicular tumor is strengthened. As the most certain preliminary examination the author recommends biopsy. (Tobler) HARRY A. SAELEMANN, M.D.

Symeonidis: A Chorionepithelioma in the Male and its Hormonal Effect in the Form of Pregnancy Changes (Ueber das Chorionepitheliom beim Mann und seine hormonale Wirkung in Form von Schwangerschaftserscheinungen.) *Beitr. z. Path. Anat.* 1934 94: 370

In a man thirty seven years old numerous lung tumors were found at autopsy after a diagnosis of metastatic chorionepithelioma had been made on the basis of the findings of the examination of supraclavicular lymph nodes that had been removed a positive pregnancy reaction, and the presence of gynecomastia. In the right testicle a teratoid tumor the size of a small cherry, which showed three germinal layers and was free from chorionepithelioma was discovered. The seminal vesicles were hypertrophied and the hypophysis was similar to that of pregnancy. The metastases in the lungs and the peribronchial and peritracheal lymph nodes were chorionepitheliomatous.

This is the twelfth case of gynecomastia associated with chorionepithelioma to be recorded. The gynecomastia is attributed to a hormonal secretion of the chorionepithelioma. The chorionogenic gynecomastia is secretory. Histological sections of the mammary gland reveal the secretion in the hypertrophied gland ducts. Men with this condition do not become effeminate but function normally in every respect.

The extragenital chorionepithelioma is correctly considered by Prym to be a metastasis from an unrecognized testicular tumor. It seems that only teratomas originating in the generative glands develop chorionepithelioma and perhaps only those arising from the testicle. However as Storchmann has pointed out the testicle is not a favorable site for the development of a chorionepithelioma. In the author's case and several cases reported by others the testicular teratoma was free from chorionepithelioma. The frequency of metastases in the retroperitoneal lymph nodes in cases of chorionepithelioma in the male as surprising. In one of two cases

of chorionepithelioma in the male which the author reported in 1933 he found, as in the case reported in this article, other types of tissue of the testicular teratoma in addition to chorionepithelioma in the retroperitoneal lymph glands. Apparently in such cases there is an early displacement of undifferentiated totipotent cells which permits the development of all three germinal layers in the lymph-node tissues. In the lungs, pure chorionepithelioma is nearly always found because, as has been demonstrated, this usually breaks into the inferior vena cava from the retroperitoneal nodes. Liver metastases therefore sometimes occur and portions of the tumor enter the heart through the vena cava.

(R. MEYER) LEO A. JUHNKE, M.D.

MISCELLANEOUS

Tarozzi, G., and Gardini, G.: Anatomical Studies of the Hypogastric Ganglial Apparatus of the Small Pelvis in the Infant and the Embryo, With Special Consideration of Its Relation to the Genito-Urinary Tract (Osservazioni anatomiche sull'apparato gangliare ipogastrico del piccolo bacino nel bambino e nella vita genito-urinarie) *Arch ital di urol*, 1934, 11 55

The studies reported were made by serial section in the cases of newborn infants and two embryos three months old. They demonstrated the constant presence of a ganglial complex consisting of a considerable number of small ganglia which corresponded to the hypogastric ganglion of Letarget.

In the female, this ganglial complex is situated lateral to the uterine cervix and vaginal fornix. It has been incorrectly called the Lee-Franckenhäuser ganglion. In the male, it is situated at the level of, and lateral to, the seminal vesicles, extends between the vesicles and the bladder, and below surrounds the prostate, forming the periprostatic ganglia.

In the embryo about three months of age, it is completely developed and its anatomical relationships to the genital organs are distinctly evident. The authors attempted to prove the theory, maintained chiefly by Camus, that the sympathetic and central nervous systems have separate origins.

On the basis of their anatomical studies and the behavior of the described ganglial apparatus in two cases of congenital urethral stenosis, the authors distinguish in this ganglial complex a small anterior group of very small ganglia presumably having a relationship to vesicle function and a posterior and more conspicuous group probably related to the function of the genital organs. They advise preservation of these ganglia whenever possible in gynecological operations, especially hysterectomies.

PETER A. ROSI, M.D.

Hryntschak, T.: Experimental Researches on the Origin of Urinary Calculi (Experimentelle Untersuchungen zur Harnsteinsteinstehung) *Ztschr f urol Chir*, 1935, 40 211

The main portion of this article describes experiments on rabbits in which moderate retention of

urine by one kidney was produced and bacteria of various types were then injected intravenously over a considerable period of time. In a smaller series of experiments which were carried out on dogs virulent coccus cultures were inoculated into the dental pulp by the method of Rosenow and Meisser. In a second series of experiments on rabbits, parathyroid hormone was administered with or without simultaneous injections of staphylococci. Finally, microscopic examinations were made of a large number of stones from human kidneys after they had been prepared by dissolving away the inorganic substance, embedded in paraffin, and sectioned. Two stones which formed in the bladders of rats fed on a diet free from Vitamin A were subjected to similar examination.

In the experiments on rabbits in which the establishment of moderate retention in one kidney was followed by the intravenous injection of the staphylococcus albus the author succeeded in producing renal gravel in 80 per cent of the animals. In a few instances small calculi were also found. In analogous experiments with the colon bacillus, bacillus lactis-aerogenes, and bacillus proteus, there was no gravel formation. Microscopic examination of the renal gravel and of serial sections made of the small stones after they had been more or less completely freed of inorganic substance revealed that the smallest formed elements consisted of rounded bodies with a concentric stratification like that of an onion and a dark nucleus in the center. Hryntschak named these basic elements of the stone structure "primary corpuscles." Larger particles, which he calls "spheroliths," were formed by apposition or fusion of these corpuscles or by the direct concentric superposition of new laminae. The colloid framework left behind after removal of the inorganic substance showed the same onion-peel structure. The larger corpuscles showed garland-like edges. The macroscopically visible stones the size of a peppercorn and larger consisted of concentric layers in which primary corpuscles or spheroliths were deposited. Whereas no cocci were demonstrable in one of the small stones, they were present in large numbers in two others.

The stones from human kidneys studied were two urate, two oxalate, and eight phosphate stones. Of the phosphate stones, seven showed large numbers of cocci whereas one contained no bacteria. The microscopic pictures of these stones resembled very closely those of the stones produced experimentally in rabbits. In the case of the oxalate stones, the similarity was not nearly so pronounced, but in these stones also minute, round structures were found to be the basic elements of the stone formation.

In discussing the origin of the primary corpuscles, the author suggests that they are formed by the saturation of extremely small "drops" of a colloidal or albumin-like substance with urinary salts, that a precipitation of certain colloid substances in combination with electrolytes occurs. This theory will

explain the atypical crystal form and also the sequence of strata one of which is always rich in electrolytes and poor in protein while the next is poor in electrolytes and rich in protein. It is probable that the protein substances are not normal but definitely changed protein substances (colloids that are foreign to the urine) and it appears that in the formation of inflammatory calculi staphylococci play a rôle in the change. The simultaneous influence of these micro-organisms on the chemical character of the urine meets the second requirement for the formation of inflammatory stones and explains why staphylococci are concerned in the formation of the great majority of inflammatory stones.

The examination of the two bladder stones which developed in rats on a diet free from Vitamin A showed that the formal gene is differed completely from that of staphylococcus stones. In these stones also there seemed to be a deposit of calcium detritus and flakes on cast off epithelial cells or combinations of cells such as was observed in one of the experiments on rabbits in which colon bacilli were administered.

The repetition of the experiments of Rosenow and Meissner for the production of renal stones in dogs by infection of the pulp cavity gave completely negative results.

The attempt to produce calculi in rabbits by administering parathyroid hormone over a long period and analogous attempts with the simultaneous long continued intravenous administration of staphylococci (without ureteral stasis) yielded only in

significant calcifications in a few of the renal calculi. (COLMERS) FLORENCE ANNAN CARPENTER.

Ratney W. and Cole W. H. *Lymphogranuloma Inguinale Its Relation to Stricture of the Rectum Arch Surg 1935 30 820*

This article is based on twenty three cases of lymphogranuloma inguinale. The Frei test was positive in all regardless of the clinical manifestation of the condition, whether inguinal adenitis, ulcerative proctitis, or rectal stricture. In all of numerous cases of other disorders this test was negative.

The most serious manifestations of lymphogranuloma inguinale are encountered in negro women in whom systemic reactions are most common and rectal stricture is frequent. The greater frequency of rectal involvement in women than in men is explained by the fact that the lymphatic drainage of the lateral and posterior vaginal wall is to the perirectal lymph nodes, what the lymphatic drainage of the penis is to the inguinal lymph glands. In the reviewed cases of stricture of the rectum the incidence of a positive Frei test—28.5 per cent—was too low to suggest that syphilis was the cause.

Antimony and potassium tartrate cause improvement in the acute cases but do not influence the rectal strictures.

Lymphogranuloma inguinale must be differentiated from granuloma inguinale, tuberculois of the inguinal glands, and chancroidal bubo. The Frei test seems to be the best method for the differentiation. THEOPHIL P. GRAUER M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Smith, L. A.: Xanthomatosis Involving Bone (Lipoid Histiocytosis). Case Reports and Roentgen Findings. *Radiology*, 1935, 24: 521.

Smith reports the histories and roentgen findings in two cases of Schueller-Christian disease and one case of metastatic hypernephroma with xanthomatous changes. He then discusses the classification, roentgen findings, differential diagnosis, and irradiation therapy of the various xanthomatous lesions affecting bone and reviews the literature on these conditions.

He states that Schueller-Christian disease occurs more frequently in males than in females. The symptoms begin most often in the first decade of life. Their onset is insidious. In many cases the disease is manifested first by a tumefaction of rather soft consistency which may or may not be tender to pressure. The clinical symptoms depend almost exclusively on the anatomical parts affected. Thus, two of the components of Christian's triad—defects in membranous bones, exophthalmos, and diabetes—are recognized as depending on involvement of the orbits and hypophysis. In general, the subjective symptoms are strikingly slight as compared with the anatomical changes. In many cases an acute infection or local trauma appears to have been the initiating factor.

The lesions occur much more frequently in the bones than in any other part of the body. Lesions have been found in the skull in practically all cases, but have been discovered also in the bony pelvis, maxilla, mandible, ribs, vertebrae, humerus, and scapula (mentioned in order of decreasing frequency of involvement). The bone changes are usually those of absorption only. This is striking in degree and in the number of areas involved. Periosteal thickening is unusual. In the skull the defects are found usually in both the inner and outer plates. They may be only from 2 to 3 cm. in diameter, but often are much more extensive than the palpable swellings and may affect the entire base of the skull. In the typical case they are multiple, causing the "moth-eaten" appearance noted by Christian.

The course of the disease varies considerably. The patient may die within the first year after the onset of the symptoms or survive as long as seventeen years, as in the first case observed by Schueller.

Except the localized variety of essential xanthomatosis in all its forms treatment has yielded only palliative results. Aside from symptomatic treatment, surgical excision of localized lesions, irradiation of local or general areas of involvement, and restriction of the fat intake, there is no therapy which

seems directly helpful. However, spontaneous retrogression is frequent. PAUL C. COLONNA, M.D.

Shelling, D. H., and Voshell, A. F.: Xanthomatosis Generalisata Ossium: Report of a Case Simulating Osteitis Fibrosa Cystica. *Arch. Int. Med.*, 1935, 55: 592.

The authors report a case of generalized xanthomatosis or lipoid granulomatosis of the bones in which the roentgenograms and the findings of biopsy strongly suggested osteitis fibrosa cystica (Recklinghausen's disease). The correct diagnosis was finally made on the basis of the presence of foam cells in some of the sections, the demonstration of lipoids by the staining of material freshly removed from the bones, and a normal calcium balance. The authors emphasize that before parathyroidectomy is attempted for supposed osteitis fibrosa cystica complete studies of the metabolism of calcium and phosphorus should be made and biopsy material stained for lipoids.

Important differences between Recklinghausen's disease and xanthomatosis ossium are summarized as follows:

- 1 Pain. Absence of pain in the bones is infrequent in Recklinghausen's disease and common in xanthomatosis.

- 2 Swelling of the bones. Osteitis fibrosa cystica is generally characterized by thinning of the cortex, expansion and swelling of the affected area, and general osteoporosis. In xanthomatosis ossium the swelling and expansion of the bone are usually slight or moderate and the osteoporosis is localized.

- 3 Metastatic calcification. Calcium deposits in the soft tissues and the formation of renal calculi are more common in hyperparathyroidism.

- 4 Hypercalcemia and hypophosphatemia. Absence of hypercalcemia usually speaks against the diagnosis of Recklinghausen's disease. In hyperparathyroidism, hypophosphatemia is fairly constant, whereas in xanthomatosis ossium the inorganic phosphorus of the serum is usually not reduced.

- 5 Phosphatase. In hyperparathyroidism the phosphatase of the plasma is increased to many times the normal. In xanthomatosis it is normal or only slightly increased.

- 6 Cholesteremia. Hypercholesteremia may be present in xanthomatosis.

- 7 Calcium and phosphorus metabolism. In typical cases of osteitis fibrosa cystica the constant withdrawal of calcium from the bones results in calcemia. When the patient is placed on a low calcium diet the excretion of calcium in the urine usually exceeds many times the intake.

- 8 Biopsy. In Recklinghausen's disease the introduction of a curette into a cystic area meets with no

resistance, whereas in xanthomatosis the areas which appear cyst like in the roentgenogram may offer resistance.

9 Histological appearance. As the histological appearance of the bones in xanthomatosis osseum closely resembles that in osteitis fibrosa the differential diagnosis between the two conditions requires the staining of biopsy material for lipids.

10 Course. In most cases of osteitis fibrosa the condition does not improve spontaneously, whereas in xanthomatosis osseum the disease process may become arrested without treatment by parathyroidectomy.

Xanthomatosis osseum must be differentiated also from Gaucher's disease and Niemann Pick disease.

If recovery does not occur spontaneously high voltage roentgen therapy may be tried.

LIVEN J. BERKESEFER, M.D.

Sommer, R. Bone Injuries of the Elbow Due to Working with Compressed Air Drills (Durch Pressluft gesetzte Knochenschädigungen des Ellbogens und ihre Entstehung). *Beitr. z. klin. Chir.* 1935 161: 37.

Injuries due to working with the compressed air drill are rare. Of the 98,855 men working with compressed air drills in Prussian mines up to the end of 1918 only 193 (about 0.2 per cent) received compensation for such injuries. In a sound joint the damage develops very slowly. The joint most often affected is the elbow. Involvement of the elbow is characterized by slowly increasing weakness of the arm, a troublesome tremor of the hand, pain like that of rheumatism when the arm is at rest, and limitation of flexion and extension of the elbow due to an osseous obstruction. Although the initial phenomena consist of proliferations of bone about the head of the radius there is seldom any limitation of rotation of the hand. In general there is a notably slight correspondence between the clinical findings and the changes in the roentgenogram. The progress of the bone forming processes in the joint is slow.

The shoulder and acromioclavicular joint are seldom involved. Involvement of the wrist joint is also relatively uncommon. In the roentgenogram the head of the radius in the region of the elbow joint is the first to show damage. The first evidence of change is seen with particular clearness in the sound arm, viz. in severe damage of the right arm it is seen in the left elbow. At first there appears on the edge of the head of the radius usually on the side of the insertion of the biceps tendon a flattening and a drawing out into a sharp ridge. This spot corresponds to the portion of the head of the radius which is in intimate contact with the ulna in the superior radio-ulnar articulation. On the opposite side of the head of the radius there then develop hyperostoses which appear like drops of fluid hanging from the normally shaped head. At operation these proliferations are found to be flat bony excrescences covered by a pannus like tissue and projecting over onto the cartilaginous surfaces. They

sometimes may break off and become free bodies in the joint. However the process is not an osteochondritis dissecans as gross injury to the cartilage is entirely absent. Corresponding to the angular erosion of the head of the radius there are a first irregularities in the upper radio-ulnar articulation which give the impression that the head of the radius has been subjected to a rapping action by the ulna in certain movements of the joint.

Next to the head of the radius the coronoid process and the anterior and posterior surfaces of the humerus just above the trochlea seem to become involved most frequently. The coronoid process appears drawn out. Its point becomes higher, shows an excrescence like prominence, and may become so long and curved that it forms a sort of bridge to the humerus above and then breaks loose. These changes occur within the capsule of the joint or in the tendinous tissue of the internal brachialis muscle which is inserted here. Corresponding to the changes in the coronoid process change soon occurs in the depression just above the trochlea where the coronoid process is accommodated and at the site of attachment of the capsule on the anterior side of the humerus. These can be seen in lateral roentgenograms. The bony thickening which begins at these sites soon fills a portion of the upper part of the depression and extends forward in a nose like projection. It is this thickening of the bone together with the increase in the size of the coronoid process that causes the limitation of flexion of the joint. The limitation of extension is due to bony thickenings in the olecranon fossa. In anteroposterior roentgenograms the olecranon fossa appears no longer as a thin plate of bone but as a thick bony layer and occasionally casts a heavy shadow. Bony changes at the tip of the olecranon are rare and difficult to demonstrate. An extremely sensitive site is the inner border of the elbow joint. The medial edge of the trochlea early exhibits a sharp nose like projection. At this site notches soon appear on the edges of the ulna or spots of lighter shadow in the trochlea where free joint bodies often have their origin.

All of these bony changes occur at sites where bone and cartilage come together—parts where the joint is able to form new bone in response to irritation. Such sites are the edge of the head of the radius, the borders of the trochlea and the tip of the coronoid process. In addition there is evidence of an erosion on the medial aspect of the head of the radius and the edge of the ulna. On the basis of the history, the rheumatic pains and the roentgen demonstration of osseous changes at the sites mentioned it is possible to state that these injuries in the elbow are produced by working with the compressed air drill. Conjointly responsible for the development of the changes is the attitude of the worker while using the drill. The elbow joint is most exposed to the jarring. The effects of the recoil jolting of the machine are manifested in the parts of the joint where the bones are in direct contact with one another. The changes are not those of arthrosis deformans.

as manifestations of regressive changes in the bones are rare and hyperostotic manifestations predominate. With years of exposure to the jolting effects of the compressed air drill the elbow joint manifests a physiological reaction at the points most exposed, the tissues responding by bony proliferation. The fact that not all workers are affected in the same way or to the same degree is explained by differences in the manner in which different workers manipulate the drills

(ERICH HEMPEL) JOHN W. BRENNAN, M.D.

Pease, C. N.: Injuries to the Vertebrae and Intervertebral Disks Following Lumbar Puncture. *Am. J. Dis. Child*, 1935, 49, 849

The author states that, in performing a spinal puncture, it is possible to introduce the needle so far that it penetrates the intervertebral disk or a vertebra. As the result of such penetration the intervertebral space may become narrowed because of a decrease in the pressure of the nucleus pulposus and the latter may prolapse into the body of the vertebra or into the needle. If infective material is introduced, changes may occur in the bone.

ELVEN J. BERKHEISER, M.D.

Sundt, H.: Vertebra Plana, Calvé. A Review and the Report of Two Cases (Vertebra plana, Calvé). Eine Uebersicht und zwei kasuistische Mitteilungen. *Acta chirurg. Scand*, 1935, 76, 501.

The author found the reports of twenty-one cases of Calvé's vertebra plana in the world literature up to the year 1935, but believes that in some of them the diagnosis was doubtful. Following a critical review of these cases, he reports a case which he had under observation for a year and cites a case reported by Bulow-Hansen and Heyerdahl which was followed up after eleven years.

Of the nineteen patients whose sex was recorded, eleven were boys and eight were girls. In the great majority of the cases the condition occurred before the ninth year of age, most frequently before the fifth year.

The symptoms are those of spondylitis, but there is no abscess or sinus. In four of the reviewed cases the condition began with acute abdominal pains.

The diagnosis is made by roentgen examination. The typical roentgen picture (reduction of a vertebral body to a planoparallel sclerotic disk only 1 or 2 mm. high with preservation of the intervertebral cartilage) may develop in the course of a short time (several weeks), even if the patient is kept in a plaster jacket. Complete restoration of the shape and structure of the vertebra has not yet been observed. It seems probable that, at least in the great majority of cases, regeneration of the diseased vertebra takes place to only a very slight degree. In the two cases under observation for the longest time (Panner's case, which has been under observation for eight years and Bulow-Hansen's case which has been under observation for eleven years) there has been no regeneration at all and the vertebrae adjoining

the flattened lamella-like vertebra have collapsed. In Bulow-Hansen's case a good clinical result has been obtained although complete capacity for work has not been restored. Panner's patient is obliged to wear a corset.

Practically the only condition to be ruled out in the differential diagnosis is tuberculous spondylitis. The latter lesion is suggested by a more or less tapering intervertebral cartilage, an abscess shadow, and involvement of adjoining vertebrae. Against the presence of tuberculosis is pronounced regeneration of the diseased vertebra. The patient's age and the planoparallel flattening of the vertebra preclude the diagnosis of kyphosis juvenilis (Schuermann).

The condition is an osteochondritis similar to coxa plana and Koehler's disease of the foot.

The treatment indicated is the same as that for spondylitis. At first a plaster jacket should be applied. Later, the wearing of a corset may be advisable. The author's case shows that even rest in bed for a year cannot check the development of the disease. Albee's operation has been performed in one case, but in the author's opinion there is no reasonable indication for it.

Mouchet, A.: Sacrolisthesis (Le sacrolisthésis). *Rev. d'orthop*, 1935, 42, 97.

By "sacrolisthesis" the author means the rather rare condition of the sacrolumbar region in which the sacrum lies anterior to the fifth lumbar vertebra. By others this condition has been called "retro-spondylolisthesis" and "hierolisthesis." Two cases were reported in 1928 by Sicard. In 1930, Waindruch and Korezky reported the case of a child eight years old. In this case the condition was clearly congenital. There was an abnormal prominence in the lumbar region and on roentgen examination the fifth lumbar vertebra was found to be completely behind the sacrum and somewhat below the upper sacral margin. The body of the fifth lumbar vertebra was hemispherical.

Mouchet reports three cases. The first was that of a man thirty years of age who injured the lower part of his back in a fall. A year later he experienced a violent pain in the loins on lifting a weight, and for more than a year thereafter had suffered more or less pain in that region. Examination disclosed a pronounced lumbosacral (not lumbar) lordosis. Motion in the spine was normal. The upper part of the sacrum was tender to pressure exerted externally and through the rectum. There was a slight scoliosis to the left in the thoracolumbar region and to the right higher up. In the upper part of the sacrum the anteroposterior roentgenogram disclosed a large opacity shaped like a French policeman's hat. The lateral roentgenogram showed that the sacrum was subluxated forward under the fifth lumbar vertebra and that its superior border made an angle of about 130 degrees with the horizontal. The fifth lumbar vertebra was horizontal, its lower border making an angle of about 45 degrees with the upper border of the sacrum.

The two other cases reported were similar. Arthrodesis by bone grafting was advised but not accepted. In one case the pain was definitely alleviated by irradiation therapy.

WILLIAM ARTHUR CLARK, M.D.

Shore L. R. Polyspondylitis Marginalis Osteophytica. *Brit J Surg* 1935 22 830

The author has given the name "polyspondylitis marginalis osteophytica" to the chronic disease of the vertebral column referred to by others as "spondylitis deformans," "spondylosis" or "osteoarthritis of the spine."

He states that the marginal osteophytes which occur are not related to the attachment of muscles or tendons and arise at a position on the vertebral body which is quite constant. They are separated from the flat surface of the vertebral bodies by grooves which mark the outer edge of the epiphyses. These grooves receive the sheaths of the intervertebral disks. The osteophytes arise in the short deep ligaments that connect the vertebral bodies. They therefore lie between the intervertebral disks and the superficial fibrous system which envelops the whole series of vertebral bodies and includes the anterior and posterior common ligaments.

A graphic presentation of the distribution of osteophyte bearing vertebrae shows a three wavy curve with three areas of maximum incidence and three of minimum incidence. The sites of minimal incidence are at the antinatal vertebrae through which a plumb line would fall in the erect position of the body. These vertebrae are supposed to be balanced and therefore to have a minimal tendency to slide or rotate.

It is suggested that ossification is the result of strain put upon the short deep intervertebral ligaments when the nuclei pulposi of the intervertebral disks lose their normal turgid elasticity. Loss of turgescence in the nuclei pulposi permits the intervertebral disks to bulge and the vertebrae to slip or rotate upon their neighbors. Any of these changes throw strain upon the deep intervertebral ligaments. The changes that end in the production of osteophytes are thought to begin in degeneration of the nuclei of the intervertebral disks. This degeneration may be brought about by trauma (overweighting), natural senile change and perhaps the invasion of toxins.

NORMAN C. BULLOCK, M.D.

Shore L. R. On Osteoarthritis in the Dorsal Intervertebral Joints. *Brit J Surg* 1935 22 833

This article describes the occurrence of osteoarthritis in the synovial joints of the human vertebral column and offers speculations on the circumstances which cause certain regions of the vertebral column to be more prone to develop the disease than others.

The synovial joints of the vertebral column are those made by the thoracic intervertebral joints, the ribs and the costovertebral, costovertebral, costovertebral and anterior atlanto-axoid joints. The author

discusses osteoarthritis of the thoracic intervertebral joints.

The material on which Shore's observations are based consisted of dried macerated bones obtained from vertebral column, assembled for an anatomical and anthropological research. No clinical notes were available. Because of the nature of the material, only mechanical factors are considered in the discussion of the cause of osteoarthritis. They are regarded as involved by osteoarthritis were those presenting peripheral osteophytes.

In the discussion of the pathological anatomy of osteoarthritis three stages of development are described. In the first stage the disease is indicated only by a fringe of osteophytes around the normal contact area. In the second it is represented by a zone of porous bone which separates the original contact area from a peripheral fringe of osteophytes. In the third all traces of the original contact area are lost and the surface may be grooved, polished and greatly deformed.

The distribution of osteoarthritis in the thoracic intervertebral joints which the author presents graphically shows three main areas of maximum incidence—a lumbo-thoracic, a cervicothoracic and a cervical—which are separated by zones of minimal incidence at the joints between the seventh and ninth thoracic vertebrae and at the joint between the sixth and seventh cervical vertebrae. The upper thoracic peak occurs at the joint between the fourth and fifth thoracic vertebrae, the cervicothoracic peak at the cervicothoracic junction and the lumbo-thoracic peak between the second and third lumbar vertebrae.

The lumbothoracic peak is attributed to weight bearing by the joints of the dorsiflexed lumbar column and absorption of the lower thoracic vertebrae into the lumbar curve as lordosis is established.

The cervicothoracic peak is mainly the result of use of the upper limbs with transference of dorsiflexion from the limbs to the thoracic skeleton and associated action of the erector spinae muscle. This peak presents the following two peaks of increased incidence:

1. An upper thoracic peak at the joint between the fourth and fifth thoracic vertebrae. It is suggested that this is due to accentuation with the onset of lordosis and kyphosis of the dorsiflexion which is a normal feature of inspiration.

2. A cervicothoracic peak at the cervicothoracic junction. It is suggested that this is due to the strong urge to keep the head upright in spite of kyphotic changes in the thorax. In marked deformity of the spine by kyphosis the head and neck are often borne upright in spite of great postural difficulties.

The cervical peak is probably due to weight bearing in joints of the already dorsiflexed cervical vertebrae.

The author devotes some space to a description of osteoarthritis in the anterior atlanto-axoid joint. He found such involvement in about one third of

curette the medulla in acute cases. Drainage by gauze and treatment by the Carrel-Dakin method have been employed extensively. Directly opposed to such methods is the procedure originated by Orr, which consists in packing the wound with vaseline gauze and then immobilizing the limb in a plaster cast and letting it alone without dressing for about four weeks. Granulations form in the depths of the wound and gradually force out the vaseline gauze pack. The infrequency of dressings diminishes the changes of re-infection and the immobilization prevents irritation of the tissues by motion. The histiophage treatment discovered by D. Herelle and popularized by Albee has proved valuable.

In chronic osteomyelitis vaccines, chemotherapy, heliotherapy, quartz light treatment and vitamins are employed as adjuvants to operative treatment. Radical intervention for the removal of sequestra is unavoidable. Complete cleaning out of the necrotic bone may be followed by the Orr procedure just as in acute cases.

The Orr method is based on four principles originally advanced by Hunter, Lister, Hilton and Thomas: (1) antiseptics to reduce the infection to a focus; (2) adequate drainage; (3) a dressing to protect the wound from irritation and from secondary infection from without; and (4) immobilization to prevent muscle spasm and pain and maintain optimum conditions for natural healing. It consists in making a wide incision, taking out a generous piece of cortex with the motor saw or chisel, cleaning out the abscess cavity with avoidance of unnecessary trauma, swabbing with 3-5 per cent iodine, washing with 70 per cent alcohol, packing with vaseline gauze, covering with a dry dressing and applying a plaster cast. When the vaseline gauze tampon is removed after several weeks the wound is found granulated, the cortical opening is somewhat narrowed and the borders of the incision show a new growth of epithelium. A new vaseline gauze pack is then introduced and a new cast applied.

Five of the author's cases are reported.

Case 1. A boy seventeen years of age developed acute osteomyelitis of the upper end of the humerus after cut on a finger. The upper arm was extremely swollen and presented several draining sinuses. There was a pathological fracture of the humerus. The general condition was alarming. Drainage was improved by several new incisions and seven weeks later the Orr treatment and sequestrectomy were carried out. After this treatment the general condition rapidly improved and after about eight weeks the osteomyelitis appeared to be cured. The final results after twenty-seven weeks were ankylosis of the shoulder, flexion of the elbow to 10 degrees, extension of the elbow to 100 degrees, and fair function of the hand.

Case 2. A boy fourteen years old presented swelling of the arm due to acute osteomyelitis centering at the elbow. After incision for drainage and about nine weeks of almost daily dressing the Orr method was employed. Several sequestra were removed.

The packing was changed after three and a half weeks when pus was leaking out at the end of the cast. At the end of about eight weeks the wound was found to be well granulated and the boneles on practically cured. The wrist was ankylosed but otherwise the function of the arm was good.

Case 3. The patient was a boy ten years of age who presented a lesion of the carpal and metacarpal bones. The Orr treatment was used after other methods had failed. The child was in an extremely toxic condition. The destruction of the carpus was quite advanced and several small sequestra came out with the drainage. After about four months of the Orr treatment cicatrization was well advanced.

Case 4. The patient was a boy ten years of age who was suffering from acute osteomyelitis of the tibia accompanied by fever which reached 39.8 degrees C. Three days after the Orr treatment was started the temperature came down to 36.8 degrees C. and thereafter showed no further rise. Dressings were done after two weeks and again three weeks later. The condition was completely cured in about two months.

Case 5. The patient was a boy fourteen years of age with osteomyelitis of the tibia which ran a course similar to that in Case 4. Cure was effected in about a month.

In Cases 4 and 5 the gauze was at first not pushed out readily by the granulations because the amount of vaseline in the gauze was insufficient. A more liberal amount of vaseline was therefore used.

In summarizing the author makes the following statements:

1. The localization must be determined accurately.
2. Intervention must be immediate.
3. Respect the healthy part of the bone.
4. Use an Esmarch tourniquet.
5. The application of iodine is unnecessary.
6. For drainage use gauze impregnated with a large amount of vaseline.
7. The dressing should be slightly compressed by the plaster cast.
8. Sensitive skins should be protected with zinc ointment.
9. The plaster cast should extend beyond the joints on either side of the lesions and should be well moulded without too much padding.
10. The only indication for early change of the dressings is a rise in the temperature.
11. It is best to leave the cast in place for some time after apparent cure of the lesion.
12. Do not begin massage and motion too soon.
13. In cases operated upon early there is no tendency toward the formation of sequestra.

WILLIAM ARTHUR CLARK, M.D.

Zur Verth M. Amputation of the Lower Extremity and Artificial Limbs (Absetzung und Kunstguss der unteren Gliedmassen). *Ergebn. d. Chir.* 1934 27 191.

In his introductory remarks the author cites the great number of persons who have undergone am-

compensation on the basis of the length of the stump leads to false conclusions. In the evaluation of earning power it is necessary to consider not only the function of the injured limb but also how much the earning capacity can be increased by a prosthesis.

The author next discusses prostheses for the lower limb. He states that the patient usually regards the artificial limb first as a means of restoring the external semblance of a complete body. He therefore demands that the prostheses have the appearance of the lost part. However, restoration of function is especially urgent when the lower extremity has been amputated. After amputation of the hand or arm it is somewhat less important. Hence in the case of the lower extremity the indication for guaranteeing an artificial limb is absolute while in the case of the upper extremity it is relative. The number of artificial arms that are unused is very large. The author reviews briefly legal decisions on the guaranteeing of artificial limbs which differ with the different kinds of insurance.

The next part of the article deals with the question as to when the patient should first be supplied with an artificial limb—whether the final artificial leg should be ordered immediately or after a provisional leg has been used for a while. The author believes that the permanent artificial leg should be fitted as soon as possible. A long wait to allow the tissues to shrink before measuring for the prosthesis in order to render future alterations of the cup unnecessary he considers an error as most changes in the stump (with atrophy of its musculature or hypertrophy of other muscle groups used for movement of the stump) do not take place until after the artificial limb has been worn. Moreover the change from the interim leg to the final artificial leg requires another series of readaptations which sometimes make too great demands upon the patient. To solve the problem the author suggests measuring the patient for the artificial leg and during the time that the leg is being made which is usually several weeks supplying him with a peg or wooden leg of the simplest sort such as can be easily made in any hospital (a sheath of plaster with a wooden peg tipped with hard rubber or an iron walking splint).

The next part of the article deals with the manufacture of artificial limbs. The author states that this work has passed out of the hands of the physician being carried on in the workshops of masters of plastic art. The products of this artistic creation must pass tests based on general principles. The art of making prostheses requires a scientific foundation. It is necessary to present the basic laws to master mechanics in an easily understandable form. The author discusses the development of these laws and the measures by which they are applied in the making of artificial legs.

He next discusses the most satisfactory artificial limbs. He states that the leather splint leg belongs essentially to the past. In general the artificial leg of choice is the wooden leg constructed according to

the laws of statics but when the light metal technique is well known in the workshop a light metal limb is to be preferred for the thigh stump. For the lower leg stump the wooden leg is the most satisfactory.

The next section of the article deals with various types and special modes of construction of artificial limbs.

In conclusion the author emphasizes again that the making of artificial limbs has become a science. He believes that there should be a center for the construction of prostheses and for research and instruction to rehabilitate persons who have lost a limb by amputation.

(ZILLMER) FLORENCE ANNAN CARPENTER.

Molotkoff A. G. The Source of Pain in Amputated Stumps in Relation to the Rational Treatment. *J. Bone & Joint Surg.* 1935 17 419.

The modern treatment of pain in amputation stumps is based chiefly on the theories regarding amputation neuromas and ascending neuritis. The author believes the pain is due primarily to involvement of terminal branches of special pain-conducting cutaneous nerves included in the scar and only secondarily to neuromas of the large nerve trunks. He bases this opinion on observations made in eleven clinical cases in which section of only the cutaneous nerves was done.

There are two distinct types of painful amputation stumps. One is characterized by pain referred to the absent limb and the other, by pain which is purely local. Proper treatment requires a thorough knowledge of the anatomy and physiology of the cutaneous nervous system and careful preliminary examination of the amputation scar.

In cases of pain radiating toward the inner part of the foot and associated with tenderness of the medial part of the scar, division of the oblique nerve near its exit from the foramen obturator has been successful. When the pain radiates toward the outer part of the foot and there is local tenderness of the outer part of the scar, satisfactory results have been obtained by sectioning the cutaneous femoral lateral branch just below the anterosuperior spine of the ilium. In cases of pain irradiating toward the anterior part of the thigh and knee with corresponding points of tenderness in the scar, additional section of the lumboinguinal nerve below Poupart's ligament has proved helpful. In the upper extremities section of the cutaneous antibrachii laterals has been successful in relieving pain localized in the first three fingers and the corresponding volar surfaces of the hands.

In case of high amputation these procedures are usually of no value. The conductors of pain in the upper third of the thigh and arm have not yet been determined.

The author believes that a trial of the more conservative measures he describes is justified because of the frequent failure of radical procedures.

RUDOLPH S. REICH, M.D.

Zadek, I : Transverse-Wedge Arthrodesis for the Relief of Pain in Rigid Flat-Foot. *J. Bone & Joint Surg.*, 1935, 17 453

Flat-foot is classified as flaccid, spastic, or rigid. Flaccid flat-foot may be corrected by re-education of the muscles of the foot to obtain proper balance, supplemented sometimes by a support. Spastic flat-foot must first be reduced to the flaccid type by baking and massage or by strapping with adhesive plaster or a plaster-of-Paris-bandage. After this has been done, the treatment indicated is the same as that for the originally flaccid type of flat-foot.

This article deals particularly with treatment of rigid flat-foot which has lasted so long that it presents marked resistance to correction. Patients with rigid flat-foot give a history of great pain and disability over a long period of time. The author reviews the various forms of treatment that have been advocated. Stretching under anesthesia has been the method of choice, but the frequent necessity for repetition of this treatment proves its inadequacy.

Zadek presents an operation for relief of pain which is based on the belief that strain and stability in the rigid flat-foot are closely related to the joint between the astragalus and the os calcis. A $2\frac{1}{2}$ -in. incision is made in the line of the tibialis posticus, beginning posterior to the astragaloscaphoid joint, and the soft tissues are retracted to expose the astragaloscaphoid joint. A transverse wedge of bone, which must include the joint and wall, of necessity, consist of several pieces, is removed with its base, $\frac{3}{8}$ in. wide, presenting on the medial aspect of the foot. Care must be taken to prevent inversion of the os calcis in its fusion with the astragalus as this may result in a painful foot. A plaster-of-Paris bandage is applied with the foot at right angles, the heel apparently slightly inverted, and the forefoot down.

Four weeks after the operation the cast is removed, a walking cast is applied, and weight-bearing is encouraged. At the end of eight weeks the second cast is removed, Whitman plates are applied, and baking and massage are instituted.

Of eight feet operated upon in this manner three or four years ago, the pain was relieved in all.

RUDOLPH S. RICH, M.D.

FRACTURES AND DISLOCATIONS

Schnek, F. G. : The Conservative Treatment of Total Dislocation of the Lunate Bone (Die konservative Behandlung der Totalluxation des Os lunatum). *Beitr. z. Klin. Chir.*, 1935, 161 129.

According to De Quervain, the common dislocation-fracture of the wrist consists of a perilunar dorsal dislocation of the hand and an intra-articular fracture of the navicular bone. When the force is very severe the lunate bone and the attached fragment of the navicular bone may be completely dislocated toward the volar side and come to lie between the soft parts. The author suggests describing this injury as "total dislocation of the lunate bone with

partial dislocation of the fractured navicular bone." Clinical examination discloses shortening and an increase in the dorsovolar diameter of the wrist. Both bones can be felt on the flexor side. As a rule there are no disturbances of the median nerve.

In most of the cases reported the dislocated bones were extirpated as it was believed that the dislocated lunate bone would become softened and a pseudarthrosis would develop in the navicular bone. However, malacia of the lunate bone has never been observed. The volar ligaments containing the nutritive vessels of these bones always remain intact. Pseudarthrosis of the navicular bone will not occur if reduction is effected immediately. When fixation is continued for from eight to twenty weeks, bony union nearly always results.

The author describes the technique of reduction. As a rule simple longitudinal traction, in which the bones are pushed back by the stretched flexor tendons, is sufficient. Sommer's claim that this method will fail in cases in which the lunate bone slips up under the skin between the flexor tendons is refuted by the author by the statement that although the bones may be felt under the skin they always remain within the sac of the tendon sheaths. The possibility of non-operative reduction of total dislocation has been proved by roentgen examination. For cases in which the injury is not recent, Schnek prefers operative reduction to extirpation as even those who advocate the latter procedure admit that disturbances of movement and arthritis deformans result from lack of adaptation of joint surfaces.

Fracture of the navicular bone and perilunar dislocation are frequent especially in the constitutional anomaly of the radius called "console radius." In this anomaly the distal articular surface of the radius is bent in a more radial direction and somewhat displaced. Progressive changes lead to Madelung's deformity. (RATCKE) WILLIAM C. BECK, M.D.

Stimson, B. B., and Swenson, P. C. : Unilateral Subluxations of the Cervical Vertebrae Without Associated Fracture. *J. Am. M. Ass.*, 1935, 104 1578.

The authors review a series of sixty-six cases of unilateral subluxation of the cervical vertebrae without associated fracture. Fifty-two of the patients came for treatment within twenty-four hours after the onset of symptoms.

The initial trauma is very slight and is apt to occur when the muscles are off guard. In the typical case the patient is a relatively young adult who comes for treatment for stiffness and pain in the neck within twenty-four hours after a mild twist or jerk of the head. He holds his head tilted to one side and is unable to bend it to the opposite side.

In discussing the differential diagnosis the author emphasizes the need for accurate stereoscopic roentgenograms in both lateral and anteroposterior positions.

The treatment indicated is reduction by head traction or manipulation with some form of im-

mobilization depending upon the length of time that has elapsed since the injury and the difficulty of the reduction.

Five recurrences are reported. The article contains roentgenograms.

Pomeranz M M and Sloane M F Slipping of the Proximal Femoral Epiphysis. The Therapeutic Results in 181 Cases. Arch Surg 1935 30 607

Slipping of the proximal femoral epiphysis has been much discussed in the literature but in the main, more from the point of view of diagnosis and etiology than that of treatment. The authors report the findings of a study to determine the end results in cases treated by various accepted methods and observed over a period of years. They present a review of the literature with an attempt to classify the results according to the procedures employed. They believe that the value of radical surgical methods has been unfortunately and unnecessarily overemphasized. The records in the literature show that good results were obtained in approximately 50 per cent of all cases regardless of whether radical or conservative treatment was used. In some of the cases in which the results were reported as end results the follow up period was too short to permit an accurate estimation of the success of the treatment. An interpretation of roentgenograms was common.

The authors report the results obtained in 181 cases treated in the Orthopedic Department of the Hospital for Joint Diseases, New York. These included only cases in which the records were complete and satisfactory and roentgenograms showing the original condition and the end result were available. The lesions are divided into the following types: (1) slight slipping, (2) marked slipping, (3) acute traumatic, (4) chronic, (5) union in malposition, and (6) old cases. The authors give a detailed report of the results obtained under conservative and under operative treatment comparing separately those obtained in the cases of slight slipping and those obtained in the cases of marked slipping. In pre-slipping cases conservative treatment was employed. This consisted of manipulation, immobilization in a cast, impaction with a Cotton Mallet, traction or rest. Manipulation was used in by far the largest group. Satisfactory reposition was obtained in more than 50 per cent, and there were no poor results. The authors believe that in many cases rest alone will accomplish a great deal as in cases of bilateral slipping good results were obtained on the untreated side after prolonged rest.

Of the cases of marked slipping, re-alignment occurred in only 5. In all of the latter the slipping was of the acute type. In the cases of chronic slipping the condition was unaffected except when it was made worse. The authors are of the opinion that in cases of marked chronic slipping gradual traction is worthless. Drilling was employed only in cases of slight slipping. The authors believe it should be

used with conservatism. In the cases in which operative treatment was used which included most of the cases of marked slipping, reconstruction, re-alignment, or wedge resection was done. The results of all treatments are presented in tables. The authors' findings and conclusions are summarized as follows:

1. In the majority of very early cases healing occurs best under treatment by immobilization or rest without manipulation. Repeated efforts to reduce the deformity as evidenced by a multiplicity of corrective maneuvers appear to aggravate the situation. Judging from comparable cases on record it is impossible to escape the impression that in many instances the end results would have been better if the patients had been left entirely alone.

2. In a few cases of bilateral slipping the untreated side healed as well as the treated side or the side treated conservatively healed as well as the side treated radically.

3. In the cases in which manipulation and operation were employed the end result was only too frequently worse than the original deformity.

4. In many cases manipulation failed to realign the femoral head and aggravated the deformity. Manipulation appears to be unwarranted in cases of slight slipping and ineffectual in cases of marked chronic slipping but definitely indicated in cases of acute traumatic slipping. Stiffness of the joint may occur even when manipulation has been employed.

5. In the early and moderately advanced cases impaction by the Cotton Mallet appears to be a safe non-operative method to hasten union through the epiphyseal line and arrest the deformity. The functional results are usually good. However this method appears to be contra-indicated in the acute traumatic cases with displacement of the epiphysis.

6. In cases of slight slipping operation by drilling was employed with good functional results and the occurrence of premature ossification through the epiphyseal line.

7. In cases of chronic marked slipping the subtrochanteric osteotomy represents the totality of effective and permissible procedures to correct the deformity.

8. In cases of so-called re-alignment of the epiphysis by operation the position of the allegedly re-aligned head often remained exactly as it was before operation.

9. Even if anatomical restitution is satisfactory, complete redislocation of the epiphysis may occur if the period of immobilization is short.

10. Reconstruction operations may result in infection, necrosis of the remaining head, and fixation of the joint. They appear to be the least desirable of all procedures. It may be pointed out categorically that the more radical the surgical procedure the worse the end results.

11. In many of the cases of so-called good end results extensive changes occur in the contour of the femoral head and joint within five years.

BARBARA R. STIMSON, M.D.

Bruecke, H. von: Fractures of the Femur (Ueber Oberschenkelbrueche) *Deutsche Ztschr. f. Chir.*, 1935, 244 495

The author reviews 327 cases of fracture of the femur which were treated in the Accident Station of the von Eiselsberg Clinic in the period from 1922 to 1931. These included only cases of pertrochanteric fracture below the lesser trochanter, shaft fractures, and T and Y fractures at the lower end of the femur. Fractures of only 1 condyle, fractures of the greater and lesser trochanter due to muscle pull, and fractures of the neck of the femur are not considered. Twenty-five per cent of the patients were children.

In the first year of life transverse fractures are most common because the structure of the bone has not yet been changed by function. Between the first and fifth years the greater number of fractures are oblique. Later, supracondylar fractures, which are typical in childhood, become more common.

In the cases reviewed there were 20 pertrochanteric fractures, 43 subtrochanteric fractures, 231 shaft fractures, 17 supracondylar fractures, 13 diaphyseal T or Y fractures, and 3 separations of the epiphysis of the distal extremity of the femur.

The pertrochanteric fracture is a very characteristic form which is usually produced by force against the outer hip region. Frequently, in this fracture, the lesser trochanter is torn off in a wedge shape.

Ninety of the reviewed fractures were caused by a fall on even ground, 62 by direct violence, 58 by traffic accidents, 40 by falls from a small height (stairs), 39 by falls through windows, 20 by winter sports, and 4 by gunshot injuries. Fourteen were spontaneous fractures and 12 per cent were due to disease processes (tubercles, bone cysts, carcinoma, Paget's osteitis deformans, generalized osteitis fibrosa with a parathyroid adenoma [12 cases], rickets, osteomyelitis, hemophilia, osteogenesis imperfecta, hypernephroma metastases). Seventeen of the 36 fractures due to disease processes were transverse fractures occurring below the lesser trochanter, the most common site of fracture in tubercles and Paget's disease. In tubercles the surgeon should beware of exuberant callus. Fractures through cancerous bone frequently heal. In cases of osteitis fibrosa the possibility of a parathyroid tumor should be considered. In 1 of the cases of this condition reviewed by the author death resulted because such a tumor was missed. In the other, the operative removal of a parathyroid adenoma by Gold was followed by the healing of previously resistant pseudarthroses in both femora. In rickets and osteogenesis imperfecta, fractures heal rapidly, but because of the softness of the callus they must be immobilized a long time. In cases of bone cysts, fractures sometimes do not heal until after curettage and the application of a pedicled periosteal flap (Oppolzer).

The von Eiselsberg Clinic opposes open reduction, especially in the cases of children. Of the fractures reviewed, only 25 per cent were operated upon. Since 1929, operation has been done in only 1 case.

There were only 2 pseudarthroses followed by good results. The author states that the interposition of muscle and soft parts does not play the rôle that is commonly ascribed to it. Von Eiselsberg and Schlossbauer unconditionally demand manual reposition with rotary movements continued until the bone ends are felt rubbing against each other. It is believed at the von Eiselsberg Clinic that in compound fractures osteosynthesis is injurious because of the increased danger of infection. Primary plaster splinting is being given up chiefly because it does not always hold the fragments in the correct position and it injures the knee joint. Extension and semiflexion are the methods of choice. As the chief essential is alignment of the distal fragment with the proximal fragment, the Zuppinger semiflexion should not be used routinely, particularly in fractures of the upper third of the femur. The author describes the von Eiselsberg splint in which the upper and lower leg portions can be fastened together at any desired angle and the length of the femoral portion can be adjusted. To obtain good abduction the splint is placed on a small table near the bed which, in cases of subtrochanteric fracture, is tilted slightly outward on its long axis for adaptation to the marked outward rotation of the upper fragment. The tendency toward varus position, toward anteversion (in both upper thirds), and toward recurvature in the lower third must be borne in mind. Of the cases reviewed, the traction was made with wire or clamps fastened in the head of the tibia in 34 and through the femoral condyle in 126. The Schmerz clamp is being abandoned because of the frequency of complications associated with its use. At the von Eiselsberg Clinic penetration of the fracture-hematoma by a wire or clamp is considered always dangerous. Overstretching of the capsule of the knee joint has not occurred, but the great weight of from 20 to 25 kgm. (15 kgm. in the cases of women) is used only in the first days and then replaced by a lighter weight. The traction is continued until good consolidation has occurred—therefore, for four, six, or eight weeks. At the end of that time a plaster cast is applied and left on for from two to six months. After removal of the cast, an Unna paste dressing is applied to the lower leg to prevent edema and varices, and an elastic bandage is applied around the knee joint to prevent effusion. The author warns against strong passive motion in the knee.

Of 24 patients with compound fractures, 9 died of severe associated injuries. Of the remaining 15, 1 died of fat embolus, 3 of sepsis, 1 of gas gangrene, and 1 of pulmonary embolism.

In the treatment of compound fractures, débridement was done and in early cases the wound was sutured when possible. Tetanus antitoxin and from 50 to 60 c. cm. of gas-bacillus antitoxin were given. Before serum prophylaxis was begun, there were 3 cases of gas gangrene. In all of the 5 cases of fracture in which amputation was done, death resulted.

In the total number of cases of fracture reviewed, there were 45 deaths, a mortality of 13.8 per cent.

but if the 30 deaths from associated injuries and intercurrent diseases are subtracted, the mortality was only 4.6 per cent (15 deaths). There were 2 pseudarthroses.

The author re-examined 37 of the surviving patients and received written reports regarding the condition of the 59 others. Sixty-eight per cent of those followed up were fit for hard work and sports, 22 per cent were able to undertake all but the hardest work and strenuous athletics, 5 per cent were able to do only light work, and 5 per cent were incapacitated. Shortening or lengthening of the leg up to 1.5 cm. caused no disability, and shortening or lengthening of from 1.5 to 3 cm. caused only slight disability. Forty-nine per cent of the patients had no shortening and 49 per cent had shortening up to 2.5 cm. Free flexion of the knee was possible to 35 degrees in 37 per cent, to 60 degrees in 37 per cent, and to 90 degrees in 10 per cent.

(FRANCE) BARBARA B. STIMSON, M.D.

Andersen K. The Treatment of Fractures of the Neck of the Femur (Ueber die Behandlung der Schenkelhalsbrüche). *Acta chirurg. Scand.* 1935 70: 427.

The author gives a short summary of the history of internal fixation in fractures of the femur. He believes that the treatment of these fractures has recently been influenced by two factors, viz. insistence on careful and immediate diagnosis by means of roentgenograms taken in two planes as urged by Boehler, and the method of treatment advocated by Sven Johansson. In brief, describing the Johansson method, Andersen states that it is not difficult if the correct instruments are available. He reports cases in which this treatment was employed. The case histories are supplemented with roentgenograms. In fresh cases the results have been satisfactory so far, but in two cases of pseudarthrosis the end results were not good. BARBARA B. STIMSON, M.D.

Boehler I. Operative Treatment of Fractures of the Neck of the Femur by the Extra Articular Method of Sven Johansson (Operative Behandlung der Schenkelhalsbrüche mit der extra artikulären Methode von Sven Johansson). *Zentralbl. f. Chir.* 1935 p. 137.

Since the wide exposure of the hip joint in the treatment of fractures of the femoral neck by the Smith-Petersen method is a difficult procedure, Sven Johansson and Jerusalem devised an extra articular operative method by which a bored nail is driven over a previously inserted wire. As this procedure can be carried out under local anesthesia it is applicable in a greater number of cases. The only cases in which it is contra-indicated are those of patients with tabs and those of patients unable to walk before the operation.

The author gives a detailed description of his method of treating fractures of the neck of the femur. Twenty cubic centimeters of a 2 per cent solution of novocain are injected into the hip joint

and roentgenograms then taken with the leg in internal and external rotation. If a medial fracture of the femoral neck of the adduction type is found, for example, a nail is first driven through the tibial tuberosity and the leg then laid in a Braun splint with adhesive plaster traction on the forefoot. With strong abduction of the leg and the foot of the bed elevated from 30 to 40 cm., traction is applied on the tibial nail by a weight equal to one seventh of the body weight. After several hours the position is checked by a roentgenogram and the weight changed if a change is indicated. If a Braun splint and extension are not used and the leg is placed between sand bags the patient may easily acquire bed sores and the leg often rolls out.

If careful clinical investigation several days later shows the patient to be in good condition, nailing of the fragments is undertaken. The joint is anesthetized by the injection of 0.5 cc. of a 1/2 per cent solution of novocain. The patient is then placed on the extension table with his legs spread so that they are separated from each other by 70 cm. and both legs are rotated inwardly so that the patellas look inward 20 degrees. The direction of the femoral neck is then determined constructively. A line drawn from the spine of the pelvis to the superior iliac spine is bisected and the femoral head, which lies 2 cm. deeper, is indicated by a mark. A second lead mark is placed at a point from 6 to 8 cm. below the tip of the greater trochanter. On the line joining these two marks a third mark is placed. By two roentgenograms the position of the fragments and of the marks is then determined. The skin and soft parts are anesthetized about 15 cm. downward from the trochanter and the bones exposed. In good position as determined by the direction points a wire 20 cm. long and 1.5 mm. thick is then bored through the neck into the head. A second wire is inserted 1 cm. higher and parallel with the first. New roentgenograms are then made. If the wires are not well placed another wire is inserted until a good position is obtained. This procedure may require several hours as always a new roentgenogram must be made. Over the correctly placed wire a perforated nail is threaded and driven into the depths by means of a special instrument. The length of the nail is measured on the roentgenogram. Finally the wire is withdrawn, the fragments are impacted by hammer blows on the trochanter and the nail is driven into the bone up to its head. For this procedure one minute of complete anesthesia is necessary. Another roentgenogram is then made. If the nail is found to be in good position the leg is placed in the Braun splint and movement of the joint is soon started.

After fourteen days the patient is allowed to get up with a narrow close fitting plaster dressing which reaches to the knee. The lower leg is covered with a zinc paste bandage to the toes to limit the swelling. The bandage is left on for from eight to ten weeks. If two roentgen machines are available much time will be saved. The article contains illustrations.

So far, the author has operated on twenty cases without wound infection.

(BRUENING). BARBARA B STIMSON, M.D

Millanitch, N., and Simovitch, M.: The Use, as a Provisional Support for a Patellar Suture with Horsehair, of Continuous Traction by a Trans-quadriceps Wire in a Case of Refracture of the Patella Through the Bed of a Wire Used for Anterior Hemicerclage. Consolidation and Excellent Functional Result (Utilisation, comme soutien provisoire, d'une suture rotulienne aux crins de Florence, d'une extension continue par fil métallique transquadricipital, pour un cas de fracture itérive de la rotule siegeant au niveau du passage du fil d'un hémicerclage antérieur. Consolidation et résultat fonctionnel excellent) *Bull et mém. Soc nat de chir*, 1935, 61 599

The authors report the case of a laborer thirty-seven years old who fractured his left patella in June, 1933. The fracture was repaired by hemicerclage with wire. Two months later the patient sustained another injury to the knee which was followed by a marked local reaction with the accumulation of a large amount of fluid in the joint. He was

first seen by the authors in September, 1933. After aspiration, palpation disclosed a deep depression above the lower fragment which seemed to enter the joint. The upper fragment was felt two or three fingerbreadths above the lower fragment. Roentgenograms showed the wire to be intact and the fracture to have occurred at the site in the upper fragment through which the wire was originally passed. At operation, which was delayed because of the acute condition of the joint, the wire was removed and the two fragments were approximated. Because of retraction of the quadriceps, approximation of the fragments necessitated incisions in the patellar tendon. Suture was done with horsehair and a wire then passed through the quadriceps tendon just above the patella. The ends of the wire were brought out from the incision to permit continuous traction to overcome the pull of the quadriceps. The traction was maintained for two weeks. Motion was begun several days after the operation. A satisfactory result was obtained.

The article includes a short discussion of this case and reproductions of roentgenograms.

BARBARA B STIMSON, M.D

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Barnard W G Tuberculous Arteritis *J Path & Bacteriol* 1935 40 433

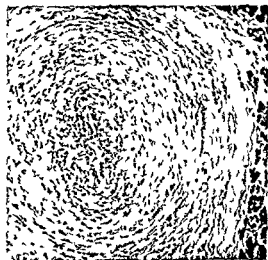
Small arteries passing through an active tuberculous focus are frequently involved in the reaction their walls becoming infiltrated by granulation tissue. Similar involvement of large arteries, which is much less common, may result in the production of an aneurism or damage to the artery wall leading to rupture.

The author reports a case in which arteritis of the internal carotid and coronary arteries was the only active tuberculous lesion found in the body.

SARIEL KALIN M D

Wever C K. and Perry I H Periarthritis Nodosa Report of a Case with Fatal Perirenal Hemorrhage *J Am Med Ass* 1935 104 1590

In the case reported by the authors a diagnosis of perirenal abscess was made on the basis of a mass in the upper right quadrant of the abdomen pain in the lumbar region fever and leucocytosis. Operation revealed a perirenal hematoma. The patient died a few hours after the operation from a secondary hemorrhage into the renal fossa. At autopsy the characteristic lesions of periarthritis nodosa involving the mesenteric hepatic splenic renal adrenal gastric cardiac and internal mammary arteries were found.



Artery showing the intimal proliferation and infiltration with eosinophiles

The general symptoms of periarthritis nodosa are those of acute or chronic sepsis. The local manifestations are extremely variable because they depend upon the site of the vascular lesion. A correct diagnosis during life is very difficult. At the present time it appears that hope for more accurate diagnosis during life depends upon consideration of the possibility of the disease in the differential diagnosis of unusual medical and surgical conditions. The authors agree with Rothstein and Welt that periarthritis nodosa should be considered in every case of acute or chronic sepsis with sterile blood cultures and bizarre symptoms otherwise unexplainable, particularly if the condition is associated with severe anemia, fever, gastro-intestinal symptoms, joint muscle or skin manifestations, signs of renal involvement, and increased blood pressure.

The etiology of periarthritis nodosa is obscure. According to the most acceptable theory, the disease is of infectious origin. However, neither a filtrable virus nor a non filtrable micro-organism has been demonstrated. Pathological studies suggest that the causative agent acts especially on the arteries. It produces a patchy destruction of the media. The lesions tend to heal but complete morphological and functional recovery does not take place. An aneurism may develop in the weakened wall or the lumen may be reduced or obliterated by the scar. Pathological study shows that the aneurysmal dilatations are found most frequently at the base of a branching vessel. HENRIK F THORSTOV M D

Telford E D and Stopford J S B Thrombo Angiitis Obliterans *Brit Med J* 1935 1 863

Thrombo-angitis obliterans is a chronic occlusive lesion of the vasospastic group which affects the medium sized arteries chiefly those of the lower limbs. The authors present a report based on personal observations in about 200 cases. Their study dealt largely with the results obtained by sympathectomy and ganglionectomy.

Thrombo-angitis obliterans is pre-eminently a disease of the male. Fewer than 1 per cent of the subjects developing the condition are females. In the cases reviewed by the authors there was no greater proportion of Jews than would be expected in the mixed population of the part of the country in which the patients lived. Occupation has no direct relation to the disease. The condition begins in the medium sized vessels usually the dorsal pedis and the posterior tibial artery. Thromboses of the arteries of the arm occurred in only 2 of the authors' cases. In 1 of the latter, that of a man twenty six years old, death occurred suddenly and at autopsy the lesions of thrombo-angitis obliterans were found in the coronary arteries.

The disease commonly begins at about the age of forty years, but patients rarely come under observation before they are crippled by claudication. In the cases reviewed claudication was observed on the average at the age of forty-five years. The course is variable. As a rule it is chronic and tends to progress by exacerbations with long periods of rest. The disease is always bilateral, but usually begins first in one leg and later in the other. The second leg is involved to a worse degree than the first.

As a rule the first symptom to attract attention is claudication. However, a few of the more observant patients state that they noticed before the onset of claudication that their feet felt at times intensely cold and while they were in this condition they appeared very white. The blanching suggests that the initial lesion is vasospastic although it may be due to too rapid emptying of the veins by muscular action. Since in early cases the authors have found that the pulsation of the posterior tibial artery is at one time distinct and at another time silent, they believe that the spastic condition of the arteries is not only present but varies in intensity from time to time.

As the disease progresses the patient begins to complain of pain while at rest, especially when warm in bed. Sooner or later the debilitated tissues invite the onset of trophic lesions. About 50 per cent of all patients develop such lesions. Thrombophlebitis, while an integral part of the disease, was relatively rare in the cases reviewed, being found in not more than 10 per cent.

The authors present a detailed description of the findings of gross and microscopic examinations of the vessels removed from 26 lower extremities amputated because of the effects of thrombo-angitis obliterans. Dissection has confirmed the patchy nature of the disease. In advanced cases it is common to find several inches of normal vessel between 2 points showing partial or complete occlusion. These examinations demonstrate clearly that the disease affects primarily the muscular arteries rather than the veins. The primary change is undoubtedly to be found in the inner coat, where proliferation of the intima can invariably be demonstrated in the initial site of the disease. Later, thrombosis occurs in the neighborhood of the intimal irregularities. At first the clot is often very small and localized, but later it increases by additions. Under the microscope it is often possible to recognize 3 zones—the thickened intima, the organizations of the primary thrombosis, and internal to the latter, the more recently formed clot. These changes lead to narrowing of the lumen and ultimately to occlusion. When the thrombosis completely fills the lumen the clot often extends in the central direction some distance beyond the site of the original intimal proliferation, and transverse sections of the vessel at this level will fail to demonstrate the primary intimal change. Succeeding the proliferation of the intima and becoming more pronounced as the organization of the clot proceeds is fibrosis of the media. The

increase of fibrous tissue in the adventitia is associated also with organization of the thrombus. The cause of the intimal proliferation in the arteries remains obscure, but the authors believe that it may be related to the attacks of intense spasm which have been noted clinically.

According to the authors' experience, all forms of physiotherapeutics are only temporary palliatives. No drug administered by mouth appears to influence the disease. The effects produced by substances causing febrile reactions are temporary. Adrenalectomy, high ligation of the femoral vein, and perivascular sympathectomy have failed to yield the results hoped for. The most obvious and rational operation is cord ganglionectomy. The results of the operation of lumbar cord ganglionectomy in forty-eight cases of thrombo-angitis obliterans as revealed by a recent survey are reviewed. Of forty-two cases studied, the results are good in twenty-five, fair in seven, and unsuccessful in ten. It is evident that in the cases of younger patients and in less advanced cases operation will give the best results and it is in this group that the majority of the good results are obtained. In the advanced cases with gangrene operation will ease the pain and may render it possible to amputate at a lower level. Treatment by cord ganglionectomy is the only procedure which offers any hope of permanent relief.

HERBERT F. THURSTON, M.D.

Donati, M.: Arterial Resection Combined with Unilateral Suprarenalectomy in the Treatment of Endarteritis Obliterans of the Extremities [(Arterienresektion kombiniert mit einseitiger Nebennierenentfernung bei der Therapie der Endarteritis obliterans der Extremitäten) *Schweiz. med. Wchnschr.*, 1935, 1, 61]

In 1915, during the war, Donati performed arterial resections in cases of injuries and aneurisms and noted that the operation was followed by quick relief of the sensory, motor, and trophic disturbances as well as of the ischemia. In 1917, Leriche called attention to the vasodilating effect and the effect on the contraction of voluntary muscles produced by arterial resection in cases of arterial obliteration, and in 1933 he published his report on the surgical treatment of arteritis obliterans. As the cyanosis, chilling, trophic disturbances, and pain associated with arterial obliteration are mainly of a sympathetic rather than an ischemic nature, he concluded that the resection brings about its effects by eliminating the influence of the perivascular sympathetic nerve of the obliterated portion of the vessel. He stated that the diseased arterial wall gives rise to reflex spasms which interfere with collateral circulation. The following surgical procedures were recommended by him for different types of arterial obliteration.

1. Perifemoral and peri-iliac sympathectomy for cases of atheromatous origin except those in which the feet are red and warm.

2. Resection of portions of vessels or ganglionectomy for beginning juvenile arteritis.

3 Removal of a suprarenal capsule in cases of definite endarteritis obliterans except those with diffuse gangrene

4 Arterectomy for cases of limited thrombosis of an artery, viz those of a traumatic nature and arterial embolism

Donati emphasizes the importance of early removal of the suprarenal capsule. He believes that most failures of this operation are due to too long delay. While the other suprarenal capsule usually becomes hypertrophied a favorable effect of the operation on the diseased member is apparent by the time the hypertrophy occurs. Of interest with respect to improvement of the circulation is Ajmir's observation that only the elastic type of arteries and not the arterioles of the musculature, have a tendency to become obliterated. Donati agrees with his pupil Cimnata that the pains are related to local circulatory disturbances in the anemic region which depend upon the action of adrenalin and all substances causing sensitization to pressure. It is for this reason that he recommends removal of the suprarenal capsule. Also to be considered is resection of the splanchnic nerves by Durante's method as by this procedure the pressure is reduced and the trophic disturbances and pains may be relieved without complete sacrifice of the cortex of the suprarenal gland.

With regard to the interlumbosacral sympathetomy of Danielopolu in which the vasodilators should be spared, there are few statistics.

The author next reports in detail the case of a man thirty six years old who for four years not counting the period of premonitory symptoms had had definite evidence of endarteritis obliterans in the left leg and in spite of 160 injections of podutin and many other measures which had produced temporary improvement, developed a chronic condition characterized by intermittent claudication, difficulty in walking, inability to stand for any considerable length of time, constant pain, trophic disturbances, and an open ulcer which had persisted for two years. At first resection of 8 cm of the non-pulsating femoral artery was done just below Poupard's ligament. The artery and vein were found closely surrounded by connective tissue which rendered their isolation difficult. During the night following the operation there was some pain. After seventeen days the patient was able to stand without pain. The foot was still cyanotic but the trophic ulcer was healed. One month after the arterial resection, the left suprarenal capsule was removed. In spite of this the findings of oscillometry remained negative. After nine months the patient was able to resume his usual occupation and to stand for a longer time and only slight cyanosis persisted. The ulcer remained healed. The oscillometric findings were then positive and the temperature of both feet was the same. This result is of special significance because arteriography before the operations showed that only the branches of the deep femoral artery were patent.

(FRANZ) CLARENCE C. REED M.D.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE; POSTOPERATIVE TREATMENT

Lowenthal, G.: Tracheobronchial Aspiration of Buccopharyngeal Secretion During Ether Anesthesia: Immediate Postoperative Bronchoscopic Study of Twenty-One Patients. *Arch Otolaryngol*, 1935, 21 561.

The author made bronchoscopic observations immediately following operations other than operations on the upper respiratory passages in the cases of twenty-one patients under ether anesthesia in order to determine whether saliva and other pharyngeal contents were aspirated. In eighteen cases the operation was done for mastoiditis, in one case for fibroma of the external acoustic meatus, and in two cases for frontal sinusitis. In the last two cases, the choanae were blocked with postnasal packs to prevent leakage from the operative field into the pharynx. In all of the cases, therefore, two factors which influence the aspiration of secretion were eliminated, namely, bleeding into the operative field and the effect of instrumental depression of the tongue such as occurs in tonsillectomy.

To identify the aspirated material, aqueous methylene blue was instilled into the pharynx after the anesthetization and before the surgical procedure was started. Most of the patients received 3 drops of the dye, but some were given as much as 20 drops. Observations on the following factors were made pre-operatively: the patient's position on the operating table, the patient's age and sex, and the pre-anesthetic medication. During the operation, observations were made on the presence or absence of the gag or laryngeal reflex at the time of the instillation of the dye into the pharynx and on the amount of secretion present in the mouth and pharynx. Immediately after completion of the operation the etherization was discontinued, the pharynx sucked dry, and bronchoscopy was done. Observations were made on the topographic distribution of aspirated material as evidenced by the presence of dye in the various segments of the tracheobronchial tree and on the quantity of material aspirated.

Aspiration into the larynx or further into the tracheobronchial tree occurred in seventeen (81 per cent), and into the trachea or lower in sixteen (76 per cent), of the twenty-one cases. It was found that when aspiration occurred the stained material was more likely to be sucked into the whole bronchoscopically-visible portion of the tracheobronchial tree than to be limited to one segment.

In a review of the literature dealing with cases of aspiration following operations on the upper respiratory passages it was found that the incidence of

aspiration was essentially the same as in this series. Aspiration by etherized patients in this series and in the various series reported in the literature was twice as frequent as in patients subjected to tonsillectomy under local anesthesia. Aspiration is therefore important as an etiological factor in postoperative pneumopathy even in cases in which the operation is not performed on the pharynx, mouth, or nose. The hygienic condition of the mouth, nose, and throat is also an important factor since upon this depends the infectivity of aspirated material. Frequent and continuous suction is suggested as a means of decreasing the amount of pharyngeal contents subject to aspiration.

ARTHUR S. W. TOUPOFF, M.D.

Kueppers, H.: A Case of Postoperative Progressive Skin Necrosis (Ein Fall von postoperativer, progressiver Hautnekrose). *Zentralbl f Chir.*, 1935, p 378.

The author reports a case of progressive skin necrosis following cholecystectomy. The operation was performed through an oblique incision, and in the suturing of the wound a small opening was left for drainage. A duodenal fistula appeared on the fourth day, but closed spontaneously after a few days. The postoperative course was then normal up to the twenty-first day, when a small circumscribed area of hyperemia with a pustule in the center appeared in the lateral corner of the wound. This lesion grew larger in the manner of a carbuncle and after a few days was the size of the palm of the hand. In the center it showed purulent liquefaction. The onset was afebrile, but later the temperature rose to 38.5 degrees at evening.

In spite of the injection of autogenous blood about the lesion, radical excision of the disease focus, X-ray irradiation, and serum treatment, the lesion progressed. The skin edges broke down and turned yellowish-brown or black. From beneath the necrotic margins a large amount of purulent material with a moderately foul odor was discharged. The tissue destruction extended to the fascia, and in the lumbar region reached the muscle.

Bacteriological examination revealed the staphylococcus albus, colon bacilli, and saprophytic organisms.

After two and a half months the necrosis had caused massive destruction extending as far as the middle of the abdomen, upward to the right breast, and a considerable distance onto the back. Almost all of the skin of the right side of the abdomen was destroyed.

At this stage the wound edges were cauterized with the actual cautery until normal tissue was reached, and during the following days were further

cauterized with concentrated zinc chloride until the infiltrated tissues were burned out. The inflammatory and chemical reactions subsided. The necrosis then remained stationary for fourteen days but at the end of that time resumed its progress in the direction of the right chest. Four months after the onset of the condition the actual cautery was again used to burn out the process. At that time the cauterization of a larger area was necessary before healthy tissue was reached. The disease process then stopped. Later, the denuded area was covered with skin grafts.

(ERIC HEMPEL) PHILIP SHAPIRO, M.D.

ANTISEPTIC SURGERY, TREATMENT OF WOUNDS AND INFECTIONS

Jaros M. Hand Injuries and Insurance (Handverletzungen und Versicherung). *Rechtliche Chirurgie und Gynaekologie* 1934 13 270

This is an extensive report with numerous tables. In the year 1930 the Prague Accident Insurance Institute paid compensation for 19,967 injuries. Of these 52.01 per cent were injuries of the upper extremities, 35.76 per cent injuries of fingers and 8.26 per cent injuries of the hand. Infection occurred in 15.44 per cent of all injuries.

The Institute has paid out more than 120 million kronen, 30.14 per cent of which were paid for hand and finger injuries and 37.75 per cent for finger infections. Infections cost about twice as much as simple injuries. Their average cost was 6,034 kronen. The average finger cost of injuries was 4,044 kronen, that of hand injuries 3,500 kronen, that of finger infections 6,157 kronen, and that of phlegmons of the hand 7,555 kronen.

The average length of time required for healing was twenty-one days for finger injuries, thirty-nine days for paronychia, and forty-six days for phlegmons. The total number of days of treatment in cases of hand and finger injuries was 140,444. The treatment of infections required 43,103 days.

With the increasing economic depression the number of self-injuries has increased. In 1931 there were 70 cases of self-injury in which the thumb was cut off with a primitive guillotine.

In conclusion the author says that the number of injuries and infections of the fingers should be decreased. Protection against accidents must be increased and injuries must be treated correctly and thoroughly. Injuries of the hand should be treated by specialists rather than by general practitioners. (VIDUČKA) JACOB E. KLEIN, M.D.

Fell A. Symptoms in Workmen Who Use Compressed Air Tools (Manifestations morbides professionnelles observées chez les ouvriers qui utilisent les outils à air comprimé). *Presse médicale* 1935 43 005

Fell reports the examination of twenty-three workmen employed in the making and repair of roads and streets who had used pneumatic drills of

various sizes. Eighteen had used such tools for one or two years, three for over two years and two for less than a year. Their ages ranged from twenty-four to fifty-two years. The majority of the men were in good general health and of robust appearance. Most of them handled pneumatic drills of the Ingersoll type weighing from 25 to 30 kgm. They used them for an average of fifteen days each month for three or four hours each day for periods of an hour or two at a time.

Most of these workmen complained of a sensation of numbness in the fingers and hands while using the drill and sometimes of recurrent tremors which they compared to repeated slight electric shocks. Some of them stated that after work they had pain in the hand and arm or cramps in the arm, while others described the hand and arm as paralyzed. Many noted stiffness of the hand and fingers with inability to grasp objects naturally. In another group there was a tremor of the hands persisting at least fifteen or twenty minutes and sometimes for several hours after work.

The most frequently observed symptom is 'deadness' of the fingers. This occurred in ten (43 per cent) of the twenty-three men studied. It occurred in the right hand and in decreasing frequency in the index finger, middle finger and little finger. The thumb and ring finger were rarely affected. Others have stated that the left hand is affected more frequently than the right. There was a sensation of formication and cold with loss of normal mobility and sensibility and sometimes an ischemic pallor in the so-called 'dead' fingers.

While most of the workmen complained chiefly of these symptoms in the fingers, hands and arms, other symptoms can be elicited on careful examination. Sixty-five per cent of the author's patients had noted ringing in the ears during and after work with the pneumatic drill. Forty-three per cent of those with this symptom were slightly deaf. One man complained of vertigo. Five men noted dimness of vision during or after work, four complained of headache and 21 per cent complained of insomnia associated with cramps in the arm. No abnormalities of the nervous reflexes were noted. The blood pressure was normal.

Another study was made on forty-four men using pneumatic drills in slate quarries. Some of the men used the drill quite constantly whereas others used them for only relatively short periods. The drills were not large, weighing only 17 or 18 kgm. Quite a number of these workmen complained of cramps or muscular tremor while using the drill but stated that these symptoms ceased when the work was stopped. The most common complaint in this group of workmen was 'lumbago' which could not be attributed to the use of the pneumatic drill and was probably due to the strained position which the work required. Only two of the men complained of persistent cramps in the arm. One complained of muscular tremors, one of 'dead' fingers and five of pain in the shoulder or thigh.

Of ninety-seven iron miners using relatively light pneumatic drills (weighing from 12 to 15 kgm.), seventy-four (76 per cent) had no symptoms attributed to the use of the drill. Twenty had slight and transitory symptoms such as fatigue, tremor, cramps, and pain in the back or thighs. Three had more severe symptoms—"dead" fingers, tremor of the hands, and cramps in the thigh against which the pneumatic drill was supported.

Among fifteen workers in a sandstone quarry there were six who had symptoms such as rheumatism and cramps in the thigh which might have been caused by the use of the pneumatic drill, but which might also have been due to the general conditions of work. None of these men complained of "dead" fingers or tremors of the hand.

The author concludes that in workers in mines and quarries where relatively light pneumatic drills are used, symptoms attributable to the use of these drills are few and slight. More serious and more permanent symptoms occur in workers using the heavier types of pneumatic drills. The most characteristic of these is the so-called "dead" fingers. Symptoms occur more frequently in the younger workers who are not skilled in the use of pneumatic tools than in the older workers who have learned to handle such tools effectively with minimal discomfort.

ALICE M. MEYERS

McClure, R. D., and Allen, C. I.: The Davidson Tannic Acid Treatment of Burns. *Am J Surg*, 1935, 28, 370

In discussing the symptoms following burns, the authors state that an increase in the concentration of the blood must be admitted and this condition must be treated as it is undoubtedly a factor, although probably not the most important one, in the mortality of burns. In support of the theory that the constitutional reaction is due to the absorption of a toxic substance formed at the site of the burn they cite Davidson's work. They present mortality tables from five hospitals which show a reduction in the death rate since the introduction of tannic acid. However, they do not attribute the improvement in the results to the tannic acid treatment alone.

Of the authors' series of 476 patients, 358 were treated with tannic acid. There were 42 deaths, a mortality rate of 11.7 per cent. In 118 cases treated before the tannic acid method of treatment was introduced the mortality was 9.3 per cent.

Among the advantages of the tannic acid treatment are relief of the pain and discomfort, prevention of loss of fluid from the wounds, and reduction of the incidence of infection, scarring, and contracture.

STANLEY J. SEEGER, M.D.

Neuber, E.: Recent Findings of Research on Actinomycosis (Neuere Ergebnisse der Aktinomykoseforschung). *Deutsche Zeitschr f Chir*, 1934, 244, 122

After briefly reviewing the pathogenesis of actinomycosis, the mechanism by which the infection is produced, and the new methods of diag-

nosing the condition, the author discusses the treatment with special reference to the use of vaccine. He states that for a long time vaccine therapy failed to find wide acceptance as it was employed even in the inactive stage of the disease and without proper dosage. It may be used only when the patient is in good general condition and shows specific allergic reactions. Otherwise the general condition must first be improved.

The author first employs the gold treatment which always influences the process favorably. He gives an initial dose which produces a definite allergic reaction in the actinomycotic patient but no reaction in control subjects. Increasing doses are then injected intramuscularly every four or five days, if possible with the production of a definite local reaction each time. As a rule from ten to fifteen injections are sufficient. If they are not sufficient, the gold and vaccine treatments are repeated. To some patients with strong allergic reactions the vaccine and gold injections may be given alternately at intervals of two or three days. In cases of very hard and extensive infiltrations the described treatment may be combined with procedures to soften the process (the use of milk, or pyriser or inoculation with malaria). In the absence of such infiltrations the author has never felt the need of combining the treatment with other methods (surgical, radiological).

The article contains several photographs taken before and after the described treatment (HEINEMANN-GRUEDER). LEO A. JUHNKE, M.D.

Donald, C.: The Conservative Attitude in the Treatment of Acute Pyogenic Infections. *Brit M J*, 1935, 1, 963

Donald reviews cases of acute pyogenic infection treated at the London Hospital during the three years from 1932 to 1934. He states that the 2 fundamental factors determining the outcome of such infections are the virulence of the infecting organism and the patient's resistance. By the "conservative in treatment" he means the avoidance of incisions altogether or their delay until a localized collection or collections of pus have formed. He states that, at the London Hospital, much faith is placed in the copious administration of fluids and potassium nitrate. In cases of severe toxemia the latter is given in amounts up to 60 gr every two hours. In all infections compresses wet with hot hypertonic salt solution (from 1/2 to 1 oz of salt to 1 pt) are applied.

In the 78 cases of carbuncle reviewed there were 5 deaths. None of the carbuncles was incised, excised, or scraped. All were allowed to slough out.

In the 112 cases of infections of the face there were 4 deaths, all due to cavernous sinus thrombosis.

Exclusive of cases of uncomplicated lymphangitis, there were 145 cases of cellulitis—48 of the upper extremity, 57 of the lower extremity, 27 of the face, and 13 of other parts of the body. Of the cases of cellulitis of the extremities, resolution without complications occurred in 55, localized abscess formation

in 43 and major complications of diffuse suppuration or/and septicemia in 7. There were 3 deaths all from septicemia due to infection of an upper extremity.

In the 176 cases of hand infection there were 4 deaths, all due to septicemia. The author states that the danger of conservative early treatment in hand infections lies in its overdoing.

Donald discusses also puerperal breast infections and the external inflammatory swelling which precedes the formation of an alveolar abscess.

In conclusion he says: "The old dictum 'Where there is pus let it out' has become a commonplace. At the present time a more valuable injunction, with an Irish flavor might well be: 'Where there isn't pus don't let it out.'"

CARL R. STERNER, M.D.

ANESTHESIA

Meyenburg H. von. Fatalities in Percain Anesthesia (Ueber Todesfalle bei Percain Anaesthetie). *Festschr. Langg.* 1935 1: 88.

The author reports the findings made at the Pathological Institute at Zurich in five cases of death due to percain. In three cases the death was due very evidently to overdosage in the induction of local anesthesia; the maximum safe dose of 0.004 gm

per kilogram of body weight having been exceeded. In two of these cases the poisoning caused clonic spasms and respiratory paralysis and in one case, severe collapse. As associated causes of death in these three cases, autopsy revealed status thymicolymphaticus, pyelonephritis and severe Hase-dow's disease with status thymicolymphaticus respectively. The fourth case was that of a patient with circulatory disturbances who was subjected to lumbar anesthesia. The correct dosage was used but the patient collapsed during the operation. In the fifth case in which mucous membrane anesthesia was repeated without overdosage in a period of two days the poisoning was probably due to cumulation of the percain because of the slowness with which the drug is excreted—Christ has observed percain anesthesia lasting for as long as twenty-two hours—and the effect of the poison was exerted on an organism weakened by carcinoma of the prostate and severe arteriosclerosis involving especially the coronary arteries. Death followed deep coma and convulsions.

In conclusion the author says that because of the toxicity of percain careful consideration should be given to all associated conditions in cases in which the use of the drug is contemplated.

(WESTMANN) PHILIP SHAPIRO, M.D.

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Kadrnka, S., and Junet, R.: Experimental Pulmo-roentgenography and Its Stages: (1) The Alveolar Stage—Pulmo-Alveolography—and (2) the Lymphatic Stage—Pulmolymphography (La pulmoradiographie expérimentale et ses étapes (1) alvéolaire—pulmo-alvéolographie—et (2) lymphatique—pulmolymphographie) *Acta radiol.*, 1935, 16: 361

The authors made roentgenological and histological examinations of the lungs of rabbits which had been given colloidal thorium intravenously in fractionated doses and graduated amounts. The observations were made at varying periods—up to three years—after the injections.

They found that when a certain dose of thorium was exceeded, the usual organs of filtration—the spleen, liver, and bone marrow—were no longer able to assure its filtration. The lungs were the next organs to be called upon because of the phagocytic capacity of the alveolar epithelium. The alveolar walls impregnated with the metal produced the roentgen picture of a very finely woven net, the "pulmo-alveologram." The roentgen appearance gradually changed as the meshes became larger until they reached about the size of a lobule and produced a honeycomb-like picture due to the deposit of thorium in the perivenous and peribronchial spaces, the "pulmolymphogram." The thorium granules always lay within the cells.

The dose of thorium necessary to produce a shadow in the lungs caused no injury when the proper technique was used, but injury resulted when the shadow-producing total dose was greatly exceeded or a too large single dose was injected.

In conclusion the authors state that the method is not yet suitable for use in clinical cases. The spleen and liver can simultaneously collect considerable amounts of thorium which are able to cause injuries.

Mayneord, W. V., and Roberts, J. E.: The "Quality" of High-Voltage Irradiations *Brit. J. Radiol.*, 1935, 8: 341

There are a number of methods of defining and measuring the "quality" of a beam of high-potential X-rays. The method of measuring quality by determining the complete energy distribution, employing an ionization or photographic spectrometer, involves too complex and lengthy investigations for general use in therapeutic practice. The methods ordinarily employed in radiological practice depend upon the absorption of the irradiation in some standard substance and differ only in the way in which the absorption data are utilized. The methods most generally known are (1) determination of the

partial absorption curve of the irradiation in a standard substance such as copper, (2) determination of an effective wave length, and (3) measurement of the "half-value layer." These methods are described in detail.

The filtration problems intimately connected with the question of quality measurement are discussed at length. Experimental results obtained by taking a series of spectra with the use of different metal filters and ionization measurements made under various conditions to ascertain the most efficient filter for high-voltage irradiation are described. Absorption curves showing percentages of transmission with filters of copper, tin, and lead of various thicknesses at different voltages, and half-layer-value studies made under similar conditions are presented. Results obtained with combinations of filters to determine quantitative "improvement" over a wide range of conditions are reported.

The authors summarize their article as follows:

The main methods of defining the "quality" of an X-ray beam are discussed and criticised. It is concluded that, at the present time, the simple half-value method is least open to criticism.

Spectra of high-voltage irradiations through lead, tin, and copper show the superiority of tin as a filter. This is demonstrated by many ionization experiments. Combinations of metals are discussed and suggestions for practical filters are made.

It is suggested that tin is the most suitable metal for half-value-layer measurements.

ADOLPH HARTUNG, M.D.

RADIUM

Hutchison, R. G.: Radium Treatment of Epithelioma of the Penis. *Brit. J. Radiol.*, 1935, 8: 306

The author states that in epithelioma of the penis extremely localized irradiation is apt to permit recurrence as the degree of infiltration of the lesion is often difficult to estimate. In the technique he describes the problem of homogeneous irradiation of the whole shaft of the penis is solved by the use of a cylinder bearing on its outer aspect such amounts of radium in such distribution that the intensity of the irradiation throughout the cylinder is practically homogeneous. The cylinder measures 10.7 cm. in length and 5 cm. in width and has a wall thickness of 1 cm. Its internal diameter is 3 cm. It is surrounded by four belts of six 1-mgm needles each. The active length of each needle is 1.5 cm. and the filtration is 0.5 mm of platinum. The two outer belts are 2.5 cm. and the two inner belts 3 cm. apart from center to center. The cylinder is cut accurately and carefully fitted into a large piece of thick sorbo rubber which is applied to the lower part of the

abdomen and groin and held in place by a double spica bandage. Substances other than rubber such as Columbia paste and dental modelling compound may be used, but the sorbo rubber is preferred. The applicator and the manner in which it is applied are shown by illustrations.

The applicator is worn for two hundred and forty hours either continuously or intermittently. The dosage is between 5 000 and 6 000 r. The irradiation usually produces a brisk erythema followed by moist desquamation of the epidermis. Healing is complete in two months. The erectile function of the penis is preserved but it is as yet unknown whether the treatment causes sterility.

Of ten patients treated by the method described in 1932 nine are alive and well. Five were cured by the radium treatment alone, but four required subsequent operation.

Radium therapy is indicated in cases unfit for surgery and those in which sacrifice of the penis is refused.

In summarizing the author says that as surface applications of radium have been found most successful in the treatment of cancer of the penis surgery should usually be the second line of defense.

A. JAMES LARKIN M.D.

Lynch M. G. The Pathology of Radium Burns *Arch. Otolaryngol.* 1935 21 507

Three stages in the development of a radium burn are suggested: (1) the stage of engorgement, (2) the stage of constriction, and (3) the stage of necrosis. In general these three stages correspond roughly to the three degrees of burns resulting from fire: (1) hyperemia, (2) the extravasation of serum and the formation of vesicles, and (3) the coagulation of cytoplasm of the cells resulting in necrosis.

In the radium burn, necrosis is due primarily, not to an injury of the tissues but to injury of the endothelial cells of the blood vessels followed by thrombosis which results in necrosis of the tissue due to lack of a blood supply. Difficulty is experienced in determining the degree of the burn caused by radium on account of the gradual nature of the development of the changes in the tissue and the fact that the tissue itself is injured only by an overwhelming dose of irradiation. The author describes the three stages of radium burn in detail presenting photomicrographs of each. He states that as in general the necrosis is brought about by thrombosis of the vessels and degeneration of fibrous tissue and muscle it is difficult to judge the full extent or degree of a radium burn from the immediate reaction of the area exposed.

A. JAMES LARKIN M.D.

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Pannella, P.: The Influence of Adrenalin on Shock Resulting from the Removal of a Hemostatic Tourniquet (Influenza dell'adrenalina sullo shock determinato da ablazione di laccio emostatico). *Ann ital di chir*, 1935, 14 1

The appearance of shock after the removal of a hemostatic tourniquet which has been applied to an extremity for some time is not uncommon. It is not necessarily a very serious type of shock.

Pannella briefly reviews some of the literature on the condition and discusses the various theories as to the cause. According to one theory, the injured muscle produces a histamine-like substance which, when freed into the circulatory system, causes a marked and rapid reduction of the arterial blood pressure. According to another theory, the shock is an anaphylactic phenomenon due to the absorption of albumin from the injured tissues. That certain new substances are present in the blood of injured extremities has been shown by the production of a marked reaction in otherwise normal animals by the injection of blood from the injured extremity. These substances are vasodilating and have a depressive action on the heart. It is believed that the vasodilating action is due to involvement of the smooth muscle, and that the heart is affected directly by intoxication. It has been shown that these substances may pass through the liver unchanged. No satisfactory treatment of this form of shock has been found.

Following a detailed case report the author records experimental work which he carried out on two series of animals to determine the influence of adrenalin on shock. In the first series of animals the shock was produced by the application of a hemostatic tourniquet. After removal of the tourniquet the shock was counteracted in some by the use of adrenalin whereas in others the result was not satisfactory. The results were not constant. In the second series of animals, the shock was produced by the injection of adequate doses of histamine. In these the effect of adrenalin was temporary and brief.

A. Louis Rost, M.D.

Serck-Hanssen, T.: Cervical Ribs Combined With Other Anomalies of the Vertebral Column as a Family Condition. *Acta chirurg Scand*, 1935, 76 551.

In eight individuals of a family, representing three generations, the following anomalies were found: well-developed cervical ribs in two, rudimentary cervical ribs in four; a cleft corpus of the seventh cervical vertebra in one, and spina bifida posterior

occulta sacralis in seven, with partial lumbarization of the first sacral vertebra in two and complete sacralization of the fifth lumbar vertebra in one. The author reports the case of one of the members of this family who was operated upon for bilateral cervical ribs. He discusses the etiology of the anomaly and the technique of operation.

Leriche, R., Fontaine, R., and Maitre, R.: The Late Results of the Treatment of Ulcers of the Leg by Operations on the Sympathetic Nerve Combined with Skin Grafting as Shown by Fifty-Two Cases (Résultats éloignés du traitement des ulcères de jambe par les opérations sympathiques combinées aux greffes, cutanées, d'après 52 observations). *J. de chir*, 1935, 45. 689

The authors state that not all ulcers of the leg can be treated in the same way. They classify leg ulcers into the following six groups: (1) post-traumatic ulcers, (2) syphilitic ulcers, (3) phlebotic ulcers, (4) true varicose ulcers, (5) chronic ulcers of unknown cause, or idiopathic ulcers, and (6) ulcers following burns.

They state that insofar as possible the treatment should be directed toward correction of the cause of the lesions. This is possible in cases of ulcers developing on large scars, which heal when the scars are reduced in size, and cases of syphilitic ulcers. It should be possible also in cases of true varicose ulcers, but these often resist removal of the varices. In the other groups, treatment directed toward the cause is impossible and the ulcer must simply be treated as such.

It is necessary to consider in the treatment also the three factors upon which the chronicity of the lesions depends: (1) the site and extent of the ulcers, (2) the poor circulation, and (3) the chronic infection. The majority of treatments used heretofore were limited to the production of hyperemia and the combating of the infection. The cicatrization occurring under such treatment results in a very thin, shining, and fragile epidermis in which a recurrence nearly always develops. To obtain a skin of good quality, skin grafts are necessary. Sympathectomy disinfects the ulcer and brings about hyperemia, thereby preparing a good bed for skin grafts. Formerly, skin grafts failed to take, but after sympathectomy they take in almost every case. Therefore the combination of sympathectomy, which brings about disinfection and hyperemia, and skin grafting, which assures a scar of good quality, is to be highly recommended for the treatment of leg ulcers.

In cases of post-traumatic ulcers, with the exception of those in which the ulcers formed on a large scar, the authors have obtained quite good

results with this treatment. Their results have been good also in cases of ulcers following burns and idiopathic ulcer. In cases of true varicose ulcer they have been especially good. In some instances a cure lasting as long as nine years has been obtained. The authors state that the smaller the zone of pigmentation and sclerosis surrounding the ulcer the better the results. When this zone is small it should be excised completely at the time of the sympathectomy and the whole defect covered with the graft. In all of the authors' cases of post phlebotic ulcer a recurrence developed, and in two a fatal embolism occurred showing that in such cases the method is dangerous. **ANNALS OF SURGERY AND GYN.** 1935 62:3

Brunner W. A Contribution on the Pathogenesis of Multiple Symmetrical Lipomatosis—Made lung's Disease (Beitrag zur Pathogenese der multiplex symmetrischen Lipomatose—Madelung'sche Krankheit). *Deutsche Zeitschr. f. Chir.* 1935 244:335

Madelung has called attention to the fact that multiple symmetrical tumor like fatty growths may be found in the subcutaneous tissues especially in alcohol addicts. In four of the author's cases chronic use of alcohol was associated with cirrhosis of the liver. The patients were men over forty years of age who were suffering from cirrhosis of the liver of varying degree ranging from beginning fatty cirrhosis to the severe irreversible form with disturbance of protein metabolism. Careful chemical studies of lipid metabolism demonstrated a more or less marked disturbance in which the liver was particularly involved.

In conclusion the author says that it is important for the surgeon to differentiate these lipomatosis from single fatty tumors as they recur readily because of the basic metabolic disturbance and they are difficult to remove surgically because of the poor delimitation of their borders.

(A. BRUNNER) **JACOB E. KLEIN M.D.**

Harbitz H. F. Lipogranuloma—a Foreign Body Inflammation Often Suggesting a Tumor. *Acta chirurg. Scand.* 1935 76:401

The author defines the lipogranuloma as a foreign body inflammation of the adipose tissue with very characteristic granulation tissue and the formation of oil cysts lined with polynuclear cells or syncytia. The cysts are later transformed to serous cysts surrounded by acellular hyaline connective tissue which may be calcified or may become obliterated to solid fibrous or calcified lumps with a histological resemblance to psammoma bodies. They then have a characteristic roentgen picture showing ring shaped or solid small round calcifications usually situated in the subcutaneous fat tissue.

The author's material consisted of seventeen cases of lipogranuloma of the breast and nineteen cases of lipogranuloma of other parts of the body. Many of the circumscribed lipogranulomas were removed because of the suspicion of malignancy.

Stout A. I. Tumors of the Neuromyo Arterial Glomus. *Am. J. Can.* 1935 24:355

The author reports eleven tumors of the neuromyo arterial glomus and reviews such tumors reported by others, calling attention to their small size, slow growth, benign character, subepidermal situation, distribution on the extremities especially beneath the finger nails, association with paroxysms of severe pain and occasionally with manifestations of disturbance of the sympathetic nervous system and morphological characteristics. Before these neoplasms were described and named by Masson they were reported as 'angiosarcomas,' 'peritheliomas' and 'painful subcutaneous tubercles.' Simple excision has resulted in immediate cure of the symptoms in every case, but the tumor may reappear long after its removal.

This study emphasizes the observation that a relatively high percentage of tumors of the neuromyo arterial glomus develop in Jews, a people known to be prone to disturbances of the sympathetic nervous system of the extremities. It also brings out the fact that the great majority of the subungual and finger tumors occur in females, while the tumors occurring elsewhere on the extremities are more frequent in males. The reason for this sex variation is not apparent. The local recurrence of a tumor which has been reported only once previously, is recorded. The study confirms also another observation made once previously, namely that there may be more than one tumor in the same individual.

JOSEPH E. NIXON M.D.

Menkin V. Inflammation Related to Surgery. *Lancet* 1935 225:931

The development of inflammation consists of a series of dynamic and sequential changes which tend to localize and ultimately dispose of an irritant thereby preventing its entry into the body. Accordingly, there is a close relationship between inflammation and immunity. The author found that when trypan blue was injected into an area of inflammation induced by a chemical irritant (aleurostat) the dye failed to penetrate either the draining lymphatic vessels or the regional lymph nodes. In other words it became fixed in the inflammatory zone whereas when it was injected into a normal area it was rapidly absorbed. Subsequent experiments demonstrated that when dye was injected intravenously it rapidly accumulated in an area of previously prepared inflammation. The accumulation was due to a local increase of capillary permeability and inability of the dye to leave the site because of the fixation mentioned. By further studies with dyes it was shown that particulate matter which was unable to pass through normal capillary endothelium readily passed through the lining of such channels in an inflamed area.

All of these findings are applicable to microorganisms. When bacillus prodigiosus or bacillus pyocyaneus is injected intravenously it localizes and is recovered from foci of artificially induced in-

flammation in greater numbers than from surrounding normal tissues. The occurrence of hematogenous osteomyelitis as the result of the localization of bacteria from the blood stream at a site of diminished resistance after preliminary trauma may thus be explained. Bacteria injected directly into an area of injury are "fixed" similarly to dyes. Their fixation was found by the author to be due to the formation of an obstructive barrier by the thrombosis of lymphatics and the coagulation of plasma in tissues distended by edema fluid. Phagocytosis does not play an important rôle in the reaction of fixation as the latter occurs before many leucocytes are present. Moreover, microscopic studies at this period fail to reveal any trace of the phagocytosed material tested. Further substantiation of the mechanical nature of fixation is afforded by the fact that dyes or bacteria injected at the periphery of an inflamed area fail to enter it. Final substantiation is afforded by a chemical test. Concentrated urea *in vitro* tends to dissolve preformed fibrin and prevents the coagulation of blood. Therefore, when urea is injected simultane-

ously with an inflammatory irritant at the same site the reaction of fixation is inhibited and the lymphocytes are found unoccluded by thrombi.

The speed with which an irritant (chemical or bacterial) causes fixation is an important index of its ability to disseminate into the circulating blood. When injected locally, the staphylococcus aureus causes fixation of dye and of itself in about an hour and the pneumococcus of Type 1 causes it in six hours, whereas the streptococcus hemolyticus requires almost two days to cause fixation. Therefore, the staphylococcus, which is fixed most rapidly, is the least invasive of these three organisms and the streptococcus, which is fixed most slowly, is the most invasive. The reaction of fixation, by circumscribing the irritant in the earliest phase of the acute inflammatory reaction, plays a definite rôle in immunity as it protects the body at the expense of local injury. The reason for the disastrous effects of untimely surgical interference with such an effective inflammatory barrier is therefore obvious.

ARTHUR S. W. TOLROFF, M.D.

Hypertrophization in experimental hypothyroidism
HANKS Zentralbl f Chir 1935 p 531

Thyroiditis an operative procedure for the relief of tracheal constriction due to thyroiditis F R LARVEY Surg Gynec & Obst 1935 60 969

The incidence of goiter amongst Saskatchewan school children in 1934 C BIRNING Canadian M Ass J 1935 32 531

The morphological character of endemic goiter in Tokau and its environs F WYROBEK Med do winder 1930 1934 10 1

Basedow's disease and its treatment F TREIMAN München med Wchnschr 1935 1 261

The treatment of Basedow's disease with animal blood L HOLLOS Orvosi hetil 1934 p 1210

The operative preparation and operative treatment of Basedow's disease in the United States of America J HELLERBRANT Orvó képzés 1934 24 254

Operation für gutter including Basedow's disease R TROBKE Fortschr d Therap 1935 11 100

Subtotal thyroidectomy in Basedow's disease L BÉNAUD P COLSON and I RAPONSKY Presse méd Par 1935 45 631

The pathology of malignant goiter C WEGFEL Bull Schweiz Verleg Krebshefte 1934 1 62

Malignant neoplasm of the thyroid T A SHALLOW W T LEMMON and E SALEEBY Ann Surg 1935 101 1190

Malignant tumors of the thyroid gland as the cause of death O STIVER Bull Schweiz Verleg Krebshefte 1934 1 234

Total thyroidectomy for cardiac failure C C WOLFE Ann Surg 1935 101 126

Total thyroidectomy in chronic congestive heart failure and angina pectoris M KARA West J Surg Obst & Gynec 1935 43 253

Total thyroidectomy in the treatment of heart disease and angina pectoris C LAYKOFF Practitioner 1935 134 656

Cervical sympathectomy and total thyroidectomy in the treatment of angina pectoris A CHASSERAIN Bol M Rome 1935 42 823

End results of thyroid surgery C R FRATER and J JOHNSON Ann Surg 1935 101 1195 [232]

The parathyroid glands D P COTTEBREATH and W A MACKAY Glasgow M J 1915 123 249

Tuberculosis of the larynx C HIRSH Laryngoscope 1935 45 269 [232]

The treatment of laryngeal tuberculosis W F STEWART J Indiana State M Ass 1935 28 230

Surgery of the sympathetic in tuberculous laryngitis R D KANSON Rev oto-neuro-otolmol y de chirg neurol 1935 10 91

Röntgen radiation necrosis of the larynx and other structures of the neck P A NELSON and E F HIRSH J Am M Ass 1935 228 1576

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings Cranial Nerves

An apparatus for the simultaneous displacement of spinal fluid and the injection of air for encephalography H D PIERCE Arch Neurol & Psychiat 1935 33 105

The classification and treatment of acute head injuries L T FOLLOE and F BACHS J Missouri State M Ass 1935 32 177

Prophylaxis in head injury T N SPASSARD Virginia M Month 1935 62 76

Neurosurgical remarks regarding the treatment of injuries of the skull and their late sequelae TOENIS Arch f orthop Chir 1934 35 20 [235]

The treatment of open skull injuries and their results WARKE Arch f orthop Chir 1934 35 24 31 [235]

A depressed fracture of the skull due to gunshot wound A M NATALE Bol Soc de chirg de Rosario 1934 1 499

Penetrating wounds of the cerebellum H L FOSS Am J Surg 1935 18 323

Concussion and contusion of the brain REICHARDT Arch f orthop Chir 1934 35 7 31 [235]

Cerebral injury sequelae their diagnoses and management A D LARSON Texas State M J 1935 31 28

The glucose tolerance test in patients with cerebral injury K WELLS and W BECKENHOFF Zentralbl f Chir 1935 p 553

Epilepsy secondary to head injury M A GLASSER and F P SHAFER Arch Surg 1935 30 83 [236]

The surgical treatment of epilepsy F SCHÜRER WATSON Wien klin Wchnschr 1934 1 15 3

A study of the cerebrospinal fluid following cerebral trauma HEYDE Arch f orthop Chir 1934 35 31

Spontaneous subarachnoid hemorrhage simulating diabetic coma with a report of two cases H C JAMISON and J W SCOTT Canad M Ass J 1935 32 540

A case report of an intracranial aneurysm with death P DORMAN Laryngoscope 1935 45 366

The thalamic syndrome H R RICHIERO Memorias med 1935 42 921 [237]

The cerebellopontine angle syndrome F ESCOBAR Medicina Madrid 1935 6 1

A colloid cyst of the third ventricle of the brain J E. PATERSON and M LESLIE Brit M J 1935 1 920

Brain tumor and trauma L SALVI Rassegna internaz di clin e terap 1935 16 256

Cerebral tumor with acute development CRIBIER MAGNETIER and DUVER J de méd de Bordeaux 1935 111 302

The Argyll Robertson syndrome occurring with pituitary tumors C W LEFEVER Am J Ophth 1931 1 442

A cerebral tumor with epilepsy of jacksonian type in a syphilitic J A CHAVARRA Presse méd Par 1935 45 147

A contribution to the study of intra cranial tumors of meningeal origin with the report of two cases of fibroblastoma of the cerebral hemispheres in children under five years of age A LLEV Rev de chirg de Barcelon 1935 5 9 [237]

The frontal operation for tumors in the region of the hypophysis N GULEKE Zentralbl f Chir 1935 p 243

The return of symptoms after successful removal of a pituitary tumor complete restoration of central and peripheral vision by medical treatment J V CLOUTIER Arch Ophth 1935 13 819

Fifty years experience in brain surgery E ASK OPMARK Sven ka f skardnärmed 1935 p 273

Neurological surgery L DAVIS Wisconsin M J 1935 34 300

Unilateral exophthalmos produced by a meningioma of the middle cranial fossa report of a case M CORREIA J J SCARFF Arch Ophth 1935 13 712

Continuous subarachnoid drainage for meningitis J G LOVE J Am M Ass, 1935, 104 1595
A calcified intradural cholesteatoma of unusual size in a patient showing manic-depressive symptoms G HORRAX, M YORSHIS, and G R LAVINE Arch Neurol & Psychiat, 1935, 33 1058

Chronic subdural hematoma. C. C. COLEMAN Am J Surg, 1935, 28 341

Subdural hematoma, a not infrequent sequela of head injury L E DANIELS Colorado Med, 1935, 32 376

The central path of the light reflex, a study of the effect of lesions H W MAGOUN and S W RANSON Arch Ophth, 1935, 13 791

The afferent path of the light reflex, a review of the literature H W MAGOUN and S W RANSON Arch Ophth, 1935, 13 862

The trigemino-cervical reflex S M WEINGROW Laryngoscope, 1935, 45 375 [237]

What shall we do for the patient with trigeminal neuralgia? G HORRAX and J L POPPEN New England J Med, 1935, 212 972

The treatment of trigeminal neuralgia with deep electro-coagulation of the gasserian ganglion by the method of Kirschner R ZENKER Jkurse aerztli Fortbild, 1934, 25 9

Anastomosis of the buccal and facial nerves P TORNELL Rev de cirug de Barcelona, 1934, 4 82 [237]

A lesion of the hypoglossal nerve H BIANCULLI Semana mèd, 1935, 42 1319

Spinal Cord and Its Coverings

Spinal cord injuries, their treatment H W FLEMING California & West Med, 1935, 42 363

Compression of the cord due to aneurism A PONDÉ, E DE ARAUJ, and A FIALHO Rev mèd Lat-Am, 1935, 20 475

The surgical treatment of syringomyelia, its critical evaluation according to the immediate and late results

A JUŽELEVSKIJ Deutsche Ztschr f. Chir, 1935, 244 593 [238]

Spinal extradural cysts E P LEHMAN Am J Surg, 1935, 28 307

Spinal cord tumors T FAX Pennsylvania M J, 1935, 38 603 [238]

A blood-vessel tumor of the spinal cord in a boy aged nine years, with special reference to a new diagnostic syndrome W C BLACK and H K FABER J Am M Ass, 1935, 104 1889 [239]

Dermoid tumors of the spinal cord, a report of four cases, with observations on a clinical test for differentiation of the source of radicular pains H C NAFFZIGER and O W JONES, JR Arch Neurol & Psychiat, 1935, 33 941 [239]

Cases of chordotomy Díaz y GÓMEZ Prog de la clin, Madrid, 1935, 23 225

Sympathetic Nerves

Roentgen aspects of sympathetic neuroblastoma, with the report of two cases A HARTUNG and S R RUBERT Radiology, 1935, 24 607 [240]

The treatment of spasmodic dysphagia by sympathetic denervation L ROGERS Brit. J Surg, 1935, 22 829 [240]

Cervical, thoracic, and lumbar sympathectomy. E PLATOU Acta chirurg Scand, 1935, 76 434

The immediate effect of lumbar sympathectomy upon spontaneous gangrene and its permanent effect. A FILATOV Deutsche Ztschr f Chir, 1935, 244 491

Miscellaneous

Essential requirements in the training of a neurosurgeon. E SACHS Am J Surg, 1935, 28 277

Two years' experience in the neurosurgical division at Wuerzburg W TOENNIS Muenchen med Wchnschr, 1935, 1 251

SURGERY OF THE THORAX

Chest Wall and Breast

An experimental contribution on the elimination of bismuth by the mammary gland G CORDARO Riv ital. di ginec, 1935, 18 19

Mastodynia G LÉO Bull et mém Soc d chirurgiens de Par, 1935, 27 162

Tuberculosis of the breast J L McGEHEE and H C SCHMEISSER Am J Surg, 1935, 28 461 [241]

Chronic cystic mastitis J S RODMAN Am J Surg, 1935, 28 452

Cystic disease of the breast P KLINGENSTEIN Ann Surg, 1935, 101 1144

The risk of cancer in cystic disease of the breast. A R KILGORE West J Surg, Obst & Gynec, 1935, 43 243

Bilateral carcinoma of the breast, a report of two cases O N MFLAND Am J Cancer, 1935, 24 69

Discussion on the prevention and treatment of metastases in carcinoma mammae A T TODD, S G SCOTT, H COLE, N S FIZZI, and others Proc Roy Soc Med, Lond, 1935, 28 681 [241]

Diffuse bone metastases of a breast carcinoma with hypercalcemia and parathyroid hyperplasia BERNARD, BOYER, PORGL, and GAUTHIER-VILLARS Bull et mém Soc mèd d hop de Par, 1935, 51 618

Trachea, Lungs, and Pleura

Tracheobronchoscopy and its practical use F D'ONOFRIO Riv di chir, 1935, 1 204

The use of bronchoscopy in pulmonary diseases E A LOOPER South M J, 1935, 28 419

Bilateral bronchial obstruction A S HALL Lancet, 1935, 228 1154

Cysticercus infestation of the lung diagnosed with the X-rays E BENASSI Radiol med, 1935, 22 506

An anatomoclinical therapeutic study of hydatid cysts of the lung H COSTANTINI and E CURTILLET Rev de chir, 1935, 54 297

Infection of the lung with actinomyces graminis W K BAER, R N KLEMMER, and L A LEWIS Pennsylvania M J, 1935, 38 613

The development and basis of surgical treatment of pulmonary tuberculosis R DEMEL Klin Wchnschr, 1935, 1 300

The rôle of the force of gravity in the pneumothorax cavity, including a discussion of selective collapse E KOROL Radiology, 1935, 24 550

The use of artificial pneumothorax in the treatment of pulmonary tuberculosis G L SAYAGO, T DEVILLAFANE LASTRA, and L L DOBRIC Rev mèd d Rosario, 1935, 25 245

The late results of therapeutic pneumothorax C ALVAREZ L VIGORINI and J PRINOLI *Rev méd d Rosario* 1935 25 137

Puncture of the internal jugular vein during phrenic evulsion R A STONEY *Lancet* 1935 238 1043

The gastric syndrome and perivisceritis following right phrenico-exeresis in tuberculosis U BARCARANI *Riforma med* 1935 51 330

Surgical closure of tuberculous apical cavities W H C ROMANUS and T H SELLERS *Lancet* 1935 228 802

Thoracoplasty C DÁNIEL Orvosi hetil 1934 p 970

Partial superior thoracoplasty in the treatment of pulmonary tuberculosis G SAYAGO and I F WOLAJ *Semana méd* 1935 42 1128

Pulmonary suppuration in tuberculosis J SILBERSTEIN *Rev méd d Rosario* 1935 25 186

Non tuberculous pulmonary suppuration J SILBERSTEIN *Rev méd d Rosario* 1935 25 201

Pulmonary abscess or a latent foreign body of the bronchus our experience in the treatment of intrapulmonary abscess J GILMER *Bull et mém Soc d chirurgiens de Par* 1935 27 176

The salutary effect of broncho-aspiration and immunotransfusion in a particularly severe case of lung abscess treated by lung resection complicated by postoperative tracheobronchial obstruction and streptococcal septicemia R MONOD and R KOURILSKY *Bull et mém Soc nat de chir* 1935 61 621

A roentgenological study of bronchiectasis A VALLEBONA *Arch ital di chir* 1934 38 822

The bronchoscopic diagnosis of bronchiectasis F LASAGNA *Arch ital di chir* 1934 38 825

Bronchiectasis and bronchocystis I BLANCO and L FERRIERO *Arch de med. chir y especial* 1935 26 233

Chronic bronchopulmonary infections due to bronchiectasis A OMODEI ZORINI *Arch ital di chir* 1934 38 819

The treatment of bronchiectasis A PERONI *Arch ital di chir* 1934 38 821

The surgical treatment of bronchiectasis R ALESSANDRI *Arch. ital di chir* 1934 38 811

Cure of chronic pulmonary gangrene by removal of a lobe of the lung LERITZ *Zentralbl f Chir* 1935 p 531

Pulmonary asbestosis III Carcinoma of the lung in asbesto-silicosis K M LYNN and W A SMITH *Am J Cancer* 1935 4 56

Pleural lavage with a solution of optoquinine in purulent pneumococcal pleuritis S G TELLEZ *Med rev mexicana* 1935 15 109

Acute bilateral empyema W R SNOW *Texas State J M* 1935 31 34

Empyema of children R I J KENNEDY *J Lancet* 1935 55 284

Experiences with the combined irrigation and iodized oil treatment of non tuberculous empyema R BOLLER and K MAKRYCOSTAS. *Klin. Wchnschr* 1934 2 1515

Further experiences with the puncture treatment of pleural empyema A J A ARSE EN *Acta chirurg Scand* 1935 76 389 [242]

Heart and Pericardium

Two cases of suture of the heart. J JIANO *Rev de chir Bucharest* 1934 37 567

Pericarditis. L IOLAK DANIELS *Nederl. Tijdschr v Geneesk* 1934 p 5074

Calcifying pericarditis G BARBACCI *Radiol med* 1935 22 452

Esophagus and Mediastinum

A new flexible dilator for the esophagus and cardia N HENNING *Deutsche med. Wchnschr* 1934 2 1015

The esophageal lesions encountered in cases of dysphagia with anemia J McGIBSON *J Laryngol. & Otol* 1935 50 320 [242]

Spontaneous rupture of the esophagus J T KYLE *Brit. M J* 1935 1 977

The treatment of functional and organic narrowings of the esophagus and cardia R NISSEN *Schweiz med Wchnschr* 1934 2 1111 [242]

Antiperistalsis in the esophagus C BECCINI *Radiol. med* 1935 22 503

The possibilities of curing severe erosions of the esophagus J TREFFR and F LADISLAUS *Monatsschr f Ohrenh.* 1935 60 96 [243]

Simple ulcer of the esophagus A ZENO and L SAN TAVELLI *Bol Soc de chirug de Rosario* 1934 1 46 [243]

The surgical anatomy of the organs of the anterior mediastinum. B MAGALDI *Riv di chir* 1935 1 182 [243]

Miscellaneous

Congenital defects of the diaphragm SCHMPP *Zentralbl f Chir* 1935 p 468

Rupture of the diaphragm R MAGER *Canadian M Ass J* 1935 32 506

A particular type of diaphragmatic relaxation. A contribution to the relationship of paralysis of the phrenic nerve relaxation of the diaphragm and congenital diaphragmatic hernia H M BROWER FROMMANN *Monatsschr f Kinderheilk.* 1935 4 120

A case of right sided diaphragmatic hernia G B BOSS *Brit J Radiol* 1935 8 333

Extrapulmonary tumors of the thorax C B PRINCE *Radiology* 1935 24 407 [244]

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

Acute actinomycosis of the abdominal wall A FLICR and F JUNGHAUS *Zentralbl f Chir* 1935 p 553

Open treatment of postoperative infections of the abdominal wall T HARSZCZYNSKY *Zentralbl. f Gynaek* 1935 p 376

Emphysematous gangrene of the abdominal wall H A GAMBLE *Am J Surg* 1935 29 190

Gangrene of the abdominal wall due to the injection of rovocain and adrenalin A F LANDFAR *Bol y trab Soc de chirug de Buenos Aires* 1935 19 6

Statistical report of 1 016 hernias on the Second Surgical Division at St Vincent's Hospital M C O'SHEA *New York State J M* 1935 35 473

A rare incarcerated hernia in an infant A ERNST *Kinderarztl. Prax* 1935 6 58

An operation for strangulated hernia in a centenarian J BENZARDON *Bol Soc de chirug de Rosario* 1934 1 497

Herniorrhaphy using a living fascial flap R P WARDHAM and V CARABBA *Ann Surg* 1935 101 1264

Herniotomy L DREFFNER *Zentralbl f Chir* 1934 p 2023

Two cases of congenital umbilical hernia P RADNO
Ginecologia, 1935, 1, 267

Appendices found as the contents of femoral hernia
H K. SHAWAN and R. ALTMAN. Ann Surg, 1935, 101,
1572

A method of closing the femoral canal in femoral hernia
V KOROVAN. Deutsche Zeitschr f Chir, 1935, 244, 150

Acute, generalized primary peritonitis complicating
scarlet fever. L. SAKOJANI. Presse med., Par, 1935, 42,
605

Biliary peritonitis without apparent perforation of the
liliary tract. G. BOUTAL. Arch ital di chir, 1935, 39,
427 [245]

The pathogenesis of bile peritonitis without perforation
W T. TOMKINSON. Rev med et Biologie, 1935, 25,
225

Spontaneous gastric peritonitis. H. MATHIAS. Zentrallbl
f Chir, 1935, p. 257

Pneumococcal peritonitis. C. SCHWABACH. Policlin,
Rome, 1935, 42, ser prat 970

Chronic, hirsute, encapsulated peritonitis. H. SCHWABACH.
Deutsche Zeitschr f Chir, 1935, 244, 100

The serum therapy of acute peritonitis, clinical and
experimental study. G. PERRINO. Zentrallbl f Chir,
1935, p. 55

The effect of bilateral subdiaphragmatic division of the
vagus nerve on bile peritonitis. G. BUTTAZZI. Arch
ital di chir, 1935, 39, 676

Mesenteric cyst. M. NOBLEMAN and L. M. LARSON.
Ann Surg, 1935, 101, 1289

Mesenteric cyst with a structure similar to that of the
omphalon. S. FROST. Arch f path Anat, 1935,
294, 625

Perforated chylous cyst of the mesentery. I. L. FINE-
MAN, and J. P. NORTH. Ann Surg, 1935, 101, 1452

Gastro-Intestinal Tract

Anastomosis between the pancreatic duct and the gastro-
intestinal canal. J. GONFANDOT. Zentrallbl f Chir, 1935,
p. 595

The significance of the complementary action of digestive
fluids in surgical pathology. J. HOFFMANN. Orvosi Hetil,
1935, p. 62

A microscopic study of the intramural plexus of the
stomach in surgical gastric diseases. W. RUDOLPH. Deutsche
Zeitschr f Chir, 1935, 244, 471

The effect of oil of peppermint on the emptying time of
the stomach. H. I. SAKOJANI, R. A. VIKAS, J. MILLER, and
H. NECHLES. J Am M Ass, 1935, 104, 1702

The effect of jejunal feeding on gastric acidity. A. A.
WHEEL. Arch Surg, 1935, 20, 875

The mechanism by which the acidity of an acid meal is
reduced in the stomach. F. C. HILL, L. C. HENRICH, and
C. M. WILKINSON. Surg, Gynec & Obst, 1935, 60, 960

The effect of extracts of the mucosa of the appendix on
gastric secretion. B. BOGGIAN. Riforma med, 1935, 51,
436

Studies on the musculature of the stomach. H. HOFF-
MANN. Zeitschr f orthop. Chir, 1934, 62, 120

Acute total volvulus of the stomach. R. R. OPPOLZER.
Zentrallbl f Chir, 1935, p. 370

Acute dilatation of the stomach. J. LACELLE. Polska
Przeegl chir, 1934, 13, 507

Diagnostic interpretation of pyloric insufficiency. C. B.
UNDAONO, P. A. MAISSA, and L. A. SANGUINETTI. Arch
argent de enferm d appar digest, 1935, 10, 225

Hypertrophy of the pylorus in adults. R. ROESSLER.
Schweiz med Wchnschr, 1935, 1, 174

Congenital hypertrophic pyloric stenosis. B. C. GAR-
RITY. South M J, 1935, 28, 450

Sympathectomy for achylasia of the cardia. G. C.
KNIGHT. Proc Roy Soc Med, Lond, 1935, 28, 897

The pathogenesis of gastric and duodenal ulcer. A.
CRIVELLO. Policlin, Rome, 1935, 42, ser prat 870

The spontaneous occurrence of gastric ulcer in cats. H.
HAYES. Klin Wchnschr, 1935, 1, 23

The possibility of the development of gastric ulcer fol-
lowing the use of barium and bromides. C. B. MONTAGNAT.
Monatsschr f Unfallchir, 1934, 11, 107

A functional study of the stomach in gastro-duodenal
ulcer. M. A. TIRANOV. Arch uruguayos de med, ciruj y
especial, 1935, 6, 325

Study of the history in cases of gastroduodenal ulcer.
J. A. GARCIA CASTAÑEDA and J. RAYGUE-MEXIA. Arch
uruguayos de med, ciruj y especial, 1935, 6, 337

Chronic experimental peptic ulcer, the role of the para-
thymus. A. B. CONSTANT. Rev de chir, 1935, 54, 275

The effect of bicarbonates on the normal stomach and on
acute experimental gastric ulcer in dogs. S. MORRISON and
M. FLETCHER. Am J M Sc, 1935, 159, 695

A case of cellulitis of the stomach due to trauma. E.
ROBIN JONSSON. Acta chirurg Scand, 1935, 76, 417

Peptoperative peptic ulcer. M. GORDON. Thesis of
Medicine. Abst by Gustaf. Presse med., Par, 1935,
45, 610

Three cases of post-operative peptic ulcer. F. PAVINO.
Rev bras de chir, 1935, 4, 115

Peptic ulcer, its complications. G. V. BRINDLEY. Texas
State J M, 1935, 31, 18

A case of bleeding ulcer of the stomach. E. BOND. Ann
d'arat path, 1935, 12, 423

Is there a peptoperative diathesis in gastric ulcer? C.
SERRAVALLE. Riforma internaz di clin e terap, 1935, 10,
325

Perforation of gastric ulcer with complicated findings.
D. KOROVAN. Zentrallbl f Chir, 1935, p. 2547

Perforation of a gastric ulcer following roentgen study.
I. WELTZER. Orvosi Hetil, 1934, 24, 359

Therapeutic considerations of gastric and duodenal
ulcer. C. TUSTOCHLO. Arch uruguayos de med, ciruj y
especial, 1935, 6, 229

Some cases of peptic ulcer, a consideration of the tech-
nique of operations on the stomach. J. ABRAHAM. Bull et
act Soc nat de chir, 1935, 61, 521

The operative treatment of unperforated gastric and
duodenal ulcer. S. KOSOVITS. Rozhl Chir i Gynack C
chir, 1935, 14, 34

Gastric resection as an emergency operation in gastro-
duodenal perforation. S. CINCARLITTI. Arch ital di chir,
1935, 39, 677

The after care of patients following gastric resection for
ulcer. G. STAMANN. Muenchen med Wchnschr, 1935, 1,
132

Blood studies in patients operated upon for gastric and
duodenal ulcer. I. SCHWARTZ. Orvosi Hetil, 1934, 24, 105

Gastric polyps. W. L. PENNINGTON. J Indiana State
M Ass, 1935, 25, 226

Gastric lipoma and peptic ulcer. I. MILLHOFF. Zentrallbl
f Chir, 1934, p. 1701

Some points in the early diagnosis of gastro intestinal
cancer. I. JELLS. South M J, 1935, 28, 440

The simultaneous occurrence of gastric cancer and ulcer.
H. KESZ. Schweiz med Wchnschr, 1935, 1, 65

The significance of chronic gastritis in the development
of carcinoma. O. USLAND. Acta chirurg Scand, 1935, 76,
485

Cancer of the stomach. F. H. LAHEY, N. W. SWINTON,
and M. FLETCHER. New England J Med, 1935, 212, 863

Dish-shaped carcinoma of the stomach. W. H. BIEK-
HUIS. Nederl Tijdschr v Geneesk, 1935, p. 763

- Liver therapy for anemia of gastric carcinoma L. LOREKOVY Rassegna internaz di clin e terap 1935 16 500
- Operability of carcinoma of the stomach A. C. McVEY Am J Surg 1935 101 1200
- Sarcoma of the stomach G. T. JACK and C. McVEY Ann Surg 1935 101 1206 [245]
- Small round-cell radioresensitive sarcoma of the stomach A. RITTER Deutsche Ztschr f Chir 1935 244 353
- Elastic gastroenterostomy A. ANGELI Riv de chir 1935 1
- The evolution and present technique of gastrojejunostomy R. W. McNEARY and M. F. LICHTENSTEIN Surg, Gynec & Obst, 1935 60 1003
- Local anesthesia for gastrectomy J. JANOS Bull et mem Soc d chirurgiens de Par 1935 27 187
- Internal herniation following operations on the stomach O. SCHNEIDER Deutsche Ztschr f Chir 1935 244 98
- Transversal gastroduodenostomy following extensive gastric and duodenal resection H. von HAREBERK Schweiz med Wchnsch 1935 1 36
- Research on intestinal peristalsis. The action of various salts injected intravenously A. COSSA and G. BARLARI Arch ital di chir 1935 30 401 [245]
- The effect of enema on intestinal motility H. F. CARLSON and T. C. CHUR Arch Surg 1935 30 881
- Acute intestinal obstruction F. H. WENDEL Ann Surg 1935 101 1250
- Acute intestinal obstruction R. FREDERICK J Nat M A 1935 27 68
- A general consideration of acute intestinal obstruction H. M. TRUSSLER J Oklahoma State M A 1935 28 164
- A case of intestinal obstruction caused by 1,000 ascaris worms 700 of which were removed by enterotomy with cure H. O. DACI and H. VON TIEN DOI Presse med Par 1935 43 620
- Intestinal obstruction caused by ring carcinoma of the small intestine D. L. POW Brit M J 1935 1 325
- Drainage of the peritoneal cavity and intestinal obstruction A. M. SHIPLEY Surg Gynec & Obst. 1935 60 1016
- Intestinal trouble in patient with ulcer M. BRAUN Arch urologues de med chir, y especial 1935 6 551
- The symptomatology of pneumatous intestine A. SAUER Orvoskepes 1934 24 66
- Cystic pneumatosis of the intestine associated with a rare anomaly of the large bowel M. ROMEO Riv di chir 1935 1 10
- Intestinal intussusception H. F. RANSOM and J. A. COLLIER J Michigan State M Soc 1935 34 32
- Some problems in the surgical treatment of carcinoma of the intestines A. MOIR Canadian M Ass J 1935 32 485
- Asystolic intestinal resection and anastomosis without sutures F. A. COLLIER West J Surg Obst & Gynec 1935 43 260
- Volvulus of the small intestine A. CANTIN Lancet 1935 225 1216
- Volvulus of the entire small bowel and ascending colon W. HIRSE Zentralbl f Chir 1935 1 382
- Diagnostic difficulties in the diagnosis of intussusception L. D. EFRAND Genesk Tyskr v Naleri Indii 1934 74 1534
- Intussusception in children L. ØSTERGAARD CHRISTENSEN Ugesk f Læger 1934 p 1229
- The treatment of intussusception with barium enemas under roentgen control A. G. LILJESLÄN Finska lak säll k fidl 1934 6 927
- Twenty cases of acute intussusception in children treated with barium enemas under roentgen control K. PETERSON Ugesk f Læger 1935 p 112
- Spasmodic and intussusception A. A. DE VINCENZA Semana med. 1935 42 108
- Repeated resections for intussusception due to familial tumors of the small intestine W. D. HARRISON and W. G. LLOYD Am J Surg 1935 28 428
- A study of intestinal intussusception based on 234 cases from 12 hospitals in Finland R. GELBERGSEN Acta chirurg Scand 1935 70 Supp 35
- Paralytic ileus cured with prosergum W. L. DAVIS Lancet 1935 225 1100
- Ischemic gangrene of a loop of small bowel due to mesenteric thrombosis K. DIEHLANN Ann d anat path 1935 22 453
- Primary carcinoma of the small intestine D. J. HARRIS and C. V. HARRISON Brit M J 1935 1 93
- Acute and chronic infrapyloric duodenal ulcers W. NELL Med Welt 1935 pp 83 122 [246]
- Diverticula of the duodenum H. C. EDWARDS Surg Gynec & Obst 1935 60 916
- A study of the pathological anatomy and pathogenesis of duodenal diverticula L. M. VACCETI DI ROSA Polichin Rome 1935 41 522 chir 36 [246]
- Acute stenosis of the duodenum from ulcer scar gastroenterostomy peptic ulcer resection recovery G. J. CHUR Bull et mem Soc d chirurgiens de Par 1935 27 167
- Hernias of the duodenojejunal flexure G. K. FRYSCHE Beitr z klin Chir 1935 101 85
- Duodenorenal fistula G. C. BLOTT J Am M Ass 1935 174 1804
- Multiple acute perforated duodenal ulcers F. DOWDLE J Michigan State M Soc 1935 34 104
- Medical treatment of duodenal ulcer and of the painful duodenal syndrome C. SABATINI Polichin Rome 1935 42 56 par 805
- The surgical treatment of deep duodenal ulcers F. V. BER Orvoskepes 1934 24 28
- Forty-four cases of pyloroduodenal ulcer treated by duodenopancreatotomy G. BRENDOLAN Riv di chir 1935 1 93
- Enterogenous cysts of the duodenum C. E. GARDNER JR and D. HARR J Am M Ass 1935 104 1800 [247]
- Primary sarcoma of the duodenum report of a case D. FRY J M. FOSTER JR and W. DENNIS Arch Surg 1935 30 675 [247]
- The value of cysticoduodenostomy H. OGDEN 1934 Cressen Dissertation
- Jejunal ulcer D. C. BALFOUR Am J Surg 1935 25 433
- A case of double peptic ulcer of the jejunum F. BURCH JOHNSON Acta chirurg Scand 1935 6 427
- Primary perforated jejunal ulcer P. L. SMITH Ann Surg 1935 101 1225
- Myoma of the jejunum M. J. VERVINO and D. COLLINS Bol v trad Soc de chir de Buenos Aires 1935 10 39
- Myoma of the jejunum (AFRISO) Bol v trad Soc de chir de Buenos Aires 1935 10 52
- Primary carcinoma of the jejunum with a case report F. PROSEK and J. MITN Am J Cancer 1935 24 72
- Acute accidents during the course of penitencium M. CHIRAY and G. ROZANOFF Presse med Par 1935 43 665
- Neosigmoostomy a new technique H. LARSENBOIS Bull et mem Soc nat de chir 1935 61 574
- The pathogenesis of obstruction due to Meckel's diverticulum H. STRYDOM Med Klin 1935 2 17

- Intestinal obstruction due to Meckel's diverticulum. L. GIROUX. *Polém. Rome*, 1935, 42, 567, part 787.
- Intestinal obstruction due to Meckel's diverticulum. L. TONIN. *Polém. Rome*, 1935, 42, 567, part 712.
- Peptic ulcer of Meckel's diverticulum, diagnosis of before perforation. Peptic ulcer of Meckel's diverticulum diagnosed at the first laparotomy. DIXON and HUGHES. *Bull et mém Soc nat de chir*, 1935, 61, 460.
- Complications of the large bowel. W. GILLIES. *Zentralbl f Chir*, 1935, p. 572.
- The irritable colon syndrome. C. J. LARK. *Pathology*, 1935, 24, 572.
- Chronic ulcerative colitis. H. G. REYNOLDS and M. L. 1935, 25, 420.
- The management of the perforated ulcerative colitis. M. KRAVITZ and M. ASHUR. *J Med Soc. New Jersey*, 1935, 32, 275.
- Chronic ulcerative colitis with associated cancerous growth. Management. J. A. BARRY and C. F. DIXON. *Arch Surg*, 1935, 10, 801.
- The relationship between ulceration and cancer of the large bowel. J. P. LEONARD. *München Med Wchnschr*, 1935, 22, 112.
- Rectal stenosis and colon resection as a protective operation. C. F. DIXON and J. A. BARRY. *New York State J Med*, 1935, 35, 325.
- Distal perforation of the normal colon. D. A. SULLIVAN and G. K. PHIBBS. *Ann Surg*, 1935, 101, 1237.
- Solitary diverticulum of the colon. H. THOMAS. *Hosp-Tid*, 1935, p. 41.
- Carcinoid phecomas of the colon and their treatment. H. PAUL. *Beitr z klin Chir*, 1935, 107, 1248.
- Pretreatment of the technique of the Heister operation. R. C. DIXON. *Semin med*, 1935, 42, 1141.
- Area closure apparatus for artificial anus. KUNIG. *Zentralbl f Chir*, 1935, p. 550.
- An apparatus for closure of the artificial anus. I. CASSAT. *Zentralbl f Chir*, 1935, p. 576.
- Tonsil of the appendix. R. KODAMA. *München med Wchnschr*, 1934, 2, 1559.
- A type of appendicitis, its explanation from the standpoint of physiology and pathology and its treatment. G. BAZ. *Med rev mexicana*, 1935, 15, 179.
- Pseudo-appendicitis in pneumonia in children. R. ACHIAS. *Med rev mexicana*, 1935, 15, 181.
- The histopathology of appendicitis. I. G. GUTMAN. *Med rev mexicana*, 1935, 15, 176.
- A morphological study of appendicitis. J. M. de CASTRO. *Med rev mexicana*, 1935, 15, 167.
- Acute appendicitis in children. W. F. LITTLE. *Kentucky M J*, 1935, 33, 205.
- Chronic appendicitis. G. C. BROWN. *J Iowa State M Soc*, 1935, 25, 244.
- The effect of Vincent's anticolonic bacillus serum on the development of acute appendicitis. H. BLANC. *Bull et mém Soc d chirurgiens de Par*, 1935, 27, 146.
- A rare type of appendicitis due to worms. A. PYRIE. *Rev de chirug de Barcelona*, 1934, 5, 35.
- A rare case of phlegmonous appendicitis in an obliterating appendix. L. JOSA. *Zentralbl f Chir*, 1935, p. 250.
- The perforated appendix, its management. A. N. CALDER. *J Nat M Ass*, 1935, 27, 58.
- Experience with appendicitis in college students. I. ROBINSON. *Am J Surg*, 1935, 28, 201.
- Five years' experience with appendicitis in a small hospital. P. SCURFORD. *München med Wchnschr*, 1934, 2, 1929.
- The treatment of appendix peritonitis in the intermediate and late stages. K. REISCHER. *Beitr z klin Chir*, 1935, 101, 64.
- Indications for operation in acute appendicitis. J. JESCHKE. *Zentralbl f Chir*, 1935, p. 231.
- The postoperative course of chronic appendicitis. J. CORFILL. *Arch uruguayos de med, ciruj y especial*, 1935, 6, 283.
- Carcinoid degeneration of the appendix. G. A. PAGAN-SCHUBER, J. M. MOORE, and H. GONZALEZ. *Texas State J M*, 1935, 31, 15.
- Drainage following appendectomy. I. BORRERO. *Nederh Tijdschr v Geneesk*, 1935, p. 208.
- Reoperation of the transverse colon, a report of two cases. P. L. TRIMMER. *J Am M Ass*, 1935, 104, 1037.
- Extensive fecolith formation in an abnormal loop of the transverse colon. E. MILLER. *Zentralbl f Chir*, 1934, p. 2509.
- Acute, rounded fetulus of periphrast of colon. PAVILLON. *Bull et mém Soc d chirurgiens de Par*, 1935, 27, 201.
- The Colley method of removing cancers of the rectum. H. GUTHRIE. *Bull et mém Soc nat de chir*, 1935, 61, 612.
- Radium therapy to the rectum. I. GREENS. 1935, Koenigsberg, Pr., Dissertation.
- The operation of Leclercq-Mummery in the treatment of polyps of the rectum. L. SARRANILL. *Rev méd d Rouen*, 1935, 25, 108.
- The pathology and treatment of the varicose syndrome of the rectum. K. BROWN. *Wien klin Wchnschr*, 1934, 2, 1459.
- The theoretical basis of the treatment for varicose veins of the rectum. K. BROWN. *Zentralbl f Chir*, 1935, p. 650.
- Cases of carcinoma of the rectum. S. R. ISGAI. *Indian M Gaz*, 1935, 70, 276.
- Adenocarcinoma of the rectum. GUTHRIE, BRETHERTON, and GUTHRIE. *Bull et mém Soc nat de chir*, 1935, 61, 618.
- The complications of carcinoma of the rectum. GOTTZ. *Zentralbl f Chir*, 1935, p. 574.
- The treatment of deep inoperable carcinoma of the rectum. I. WATNEY. *Zentralbl f Chir*, 1935, p. 246.
- The surgical management of malignant lesions of the colon and rectum. G. B. KIST. *Colorado Med*, 1935, 32, 78.
- The fate of 2-2 patients with carcinoma of the rectum following various methods of treatment. H. W. PAULSTEF. *Chirurg*, 1935, 7, 105.
- Sclerotomy injections in proctology. V. TAIRIS. *Arch uruguayos de med, ciruj y especial*, 1935, 6, 345.
- The treatment of internal hemorrhoids. J. W. RIDDIX. *Practitioner*, 1935, 134, 673.
- Internal hemorrhoids, treatment by non surgical methods. R. ALLEN. *Kentucky M J*, 1935, 33, 228.
- New operative treatment for hemorrhoids. A. JONKES. *Ortodontics*, 1934, 24, 209.
- Surgery of the rectum. R. BUCHT. *Chirurg*, 1935, 7, 86.
- Congenital deformities of the anus and rectum. J. R. ARDRA and J. C. PELLERANO. *Semin med*, 1935, 42, 1347.
- ### Liver, Gall Bladder, Pancreas, and Spleen
- Functional tests of the liver. A. CATALANOTTI. *Rivista internaz di clin e terap*, 1935, 10, 450.
- The value of liver function tests in surgery. I. CUKOR. *Orvosi hetil*, 1934, p. 1053.
- Hepatic function in relation to operation and anesthesia in surgical affections in general and diseases and drainage of the biliary tract. S. TESSIER. *Arch ital di chir*, 1935, 39, 221.

The insulin glucose water test of liver function in carcinoma of the rectum. F J IASIGLER. *Deutsche Ztschr f Chir* 1934 244 103

Hepatic function. III. The effect of cholecystectomy on hepatic function. A CANTARON, L GARTMAN and C RICHGITS. *Arch Surg* 1935 10 805

Subcutaneous rupture of the liver with injury to the portal vein. operative treatment. Vascular suture. recovery. H von SELZEN. *Schweiz med Monatsschr* 1935 1 83

Painless jaundice. R OTTFENBERG. *J Am M Ass* 1935 104 1682 [249]

Indications for operation in icterus due to calculus. P WAELE. *Festschr Ver Aerzte Steiermark* 1935 p 114

Parasites in the biliary tract. IBERIC. *Zentralbl f Chir* 1935 p 64

Primary carcinoma of the liver in a child. E N JAMIESON. *Edinburgh M J* 1935 42 247

Primary carcinoma of the liver with hypoglycemia. D J BEERS and J J MORROW. *Am J Cancer* 1935 24 51

The effect of ligation of the portal and splenic veins on blood gases and blood volume. T VAELE and E DIERA. *Schweiz med Wchnschr* 1935 1 86

Cholecystography. W H CHUBB and C N COOPER. *J Iowa State M Soc* 1935 25 231

The value of cholecystography by the oral method with an analysis of 140 cases which were operated upon. E SCHON. *Minnesota Med* 1935 28 209

Rapid cholecystography by the method of Antonucci. C TONIOLO. *Kashegna internaz di clin e terap* 1935 16 451

The phrygian cap in cholecystography. A congenital anomaly of the gall bladder. J A BOYDEN. *Am J Roentgenol* 1935 33 380 [249]

Intrahepatic gall bladder. I P MCNAMEE. *Am J Roentgenol* 1935 33 603

Torsion of the gall bladder. S C SLEIGHT. *Brit M J* 1935 1 977

Strangulation of the pendulous gall bladder caused by an athero band. W FORST. *Zentralbl f Chir* 1935 p 430

Gall bladder disease simulating angina pectoris. L K (OLD). *J Indiana State M Ass* 1935 28 221

Masked cholecystitis and colon bacillus infection. P JACQUET and S FITEFFRY. *Revue med Par* 1935 43 625

Cholecystectomy as an emergency operation in acute cholecystitis. R L MASLIOTTA. *Bol y trab Soc de cirug de Buenos Aires* 1935 10 33

Agrographical and pathological contribution on the question of gall stones. A study with the duodenal sound in Javanese and Chinese. J POTTER VAN LOON. *Genee k Tijdschr v Nederl Ind* 1934 74 1 30

Biliary lithiasis: cholecystectomy without drainage. A H MOLINO and R A BOERO. *Semana med* 1935 42 1016

Cholecystographic diagnosis of papillomas and tumors of the gall bladder. C MOORE. *Am J Roentgenol* 1935 33 610

Malignancy of the gall bladder. J F FREDMAN. *Ann Surg* 1935 101 1739 [250]

A rare case of operatively cured carcinoma of the gall bladder. A ALCA. *Zentralbl f Chir* 1935 p 212

The value of cholecystectomy in surgery of the biliary tract. H LOERCKEN and D KRETSCH. *Zentralbl f Chir* 1935 p 340

Late bile peritonitis due to rupture of the ductus choledochus. P I MIRIZI. *Bol y trab Soc de cirug de Buenos Aires* 1935 10 95

The management of common duct stone and of stricture. F M DORGLASS. *Ohio State M J* 1935 31 379

The indications for and the results of external choledochoduodenostomy. G POTORSCHIG. *Deutsche Ztschr f Chir* 1935 244 288 [250]

Subcutaneous injuries of the pancreas. L SCHULTZ. *Orvosekészet* 1934 24 203

The value of the Cambridge test following trauma to the pancreas. F PAGLIANT and G PERAZZO. *Chir chir* 1935 11 268

A clinical contribution on diseases of the pancreas. C FRUTER. *Deutsche Ztschr f Chir* 1934 244 191

Acute pancreatitis. A CATALINA. *Med. Ibera* 1935 19 587

Pancreatic fistulas following gastric and duodenal resection. H FRIESTER. *Schweiz med Wchnschr* 1935 1 4

The diagnosis and treatment of cysts of the pancreas. E von PEDWITZ. *Schweiz med Wchnschr* 1935 1 41

Internal drainage of a large pancreatic cyst by pancreatic gastrostomy. G VECCHI. *Wien klin Wchnschr* 1935 1 45

Carcinoma of the pancreas in Say a pine snake pituitous says. H L RATCLIFFE. *Am J Cancer* 1935 24 8

Latent adenocarcinoma of the body of the pancreas. A CASHBARR. *Polichin. Rome* 1935 42 sez prat. 4 7 [250]

Functional researches in pancreatic surgery. G MONTENAPOLI. *Riforma med* 1935 51 478

The surgery of acute pancreatic diseases. BERNHARD. *Zentralbl f Chir* 1935 p 532

The surgery of the ruptured spleen. P BANNERJEE. *Indian M Gaz* 1935 10 273

Splenomegaly due to a traumatically thrombosed splenic vein. J MONAUDI and G H BARTSCH. *Med Klin* 1934 2 1395

A case of primary thrombophlebitic splenomegaly treated by splenectomy and cured over a period of six years. G GIORDANO. *Polichin. Rome* 1935 42 sez prat. 219

Infantile splenic anemia and splenectomy. A CARCCI and S CONFORTI. *Polichin. Rome* 1935 42 sez prat. 615

A severe case of anemia with splenomegaly and erythremia. P STEFANETTI. *Polichin. Rome* 1935 42 sez med 261

Sprochetal jaundice in a London sewer worker. E A M HAISTED. *Brit M J* 1935, 1 1067

Splenectomy for tropical splenomegaly. A N PAIST. *Indian M Gaz* 1935 10 243

Tumor like tuberculosis of the spleen. S FAS RANER. *Deutsche Ztschr f Chir* 1935 244 463

The lateral circulation following ligation of the splenic vein. L LOFFLER. *Deutsche Ztschr f Chir* 1934 244 213

Splenectomy in leukemia. L DE MARVAL and G BOWEN. *Semana med* 1935 42 1239

Miscellaneous

The anatomy of the umbilical canal. M A CORLEON. *Arch f klin Chir* 1934 181 195

Sho gun wounds of the abdomen. B C WILLIS. *Am J Surg* 1935 8 40

Leucocyte counts following blunt injuries to the abdomen. R STAMER. *Zentralbl f Chir* 1935 p 306

The coin test in pneumoperitoneum. A POZZI. *Polichin. Rome* 1935 42 sez med 197 [251]

Suppurative abscess. J D HANCOCK. *J Indiana State M Ass* 1935 28 218

The diagnosis of tumors of the retroperitoneal space. H DORST. *Muenchen med Wchnschr* 1934 3 1939

Abdominal lymphosarcoma with acute febrile course or lymphogranulomatosis. R MONTALEONE. *Polichin. Rome* 1935 42 sez prat. 803

Operative prognosis in adipo e and thin patients. E SEIBERT. *Muenchen med Wchnschr* 1934 2 1017

GYNECOLOGY

Uterus

- A new hysteroscope C DAVID Compt rend Soc franç de gynéc, 1935, 5: 128
- The intramural innervation of the uterus A R VINÓS Arch Fac de med de Zaragoza, 1934-35, 3: 115
- Congenital deformities of the round ligaments of the uterus W NOETZEL Zentralbl f Chir, 1935, p 20
- Uterus didelphus Removal of the left hematometrous uterus, numerous pregnancies in the remaining uterus E CRESSON Compt rend. Soc franç de gynéc, 1935, 5: 116
- The Strassmann operation for uterus duplex and bicornis N. C LOUROS Deutsche med Wchnschr, 1935, 1: 132
- Foreign bodies of the uterus SÉJOURNET Bull et mém Soc d chirurgiens de Par, 1935, 27: 206.
- A Neugebauer-Léfort operation for prolapse of the uterus. L Süssi Policlín, Rome, 1935, 42 sez prat 857
- The treatment of retroversion of the uterus J V URIARTE Rev mexicana de cirug, ginec y cáncer, 1935, 3: 233
- The treatment of retroversion of the uterus C ZUCKERMANN Rev mexicana de cirug ginec y cáncer, 1935, 3: 242
- Surgical criteria in the treatment of retroversion M J CASTILLEJOS Rev mexicana de cirug, ginec y cáncer, 1935, 3: 229
- Ligamentopexy of election C ROBLES Rev mexicana de cirug, ginec y cáncer, 1935, 3: 236
- Obstructive lesions of the uterus and their complications A H CURTIS Surg, Gynec & Obst, 1935, 60: 930
- Insulin in the treatment of uterine hemorrhage of ovarian origin P ULRICH Compt rend Soc. franç de gynéc, 1935, 5: 119
- Cervical erosion and endocervicitis treated by diathermy coagulation A BRUNO Clin ostet, 1935, 37: 224
- Leucoplakia of the portio vaginalis uteri E BÁRSONY and A KOVÁCS Acta cancerol, Budapest, 1934, 1: 19
- The treatment of gonococcal metritis by regional vaccination at the port of entrance G ARNAL Presse méd, Par, 1935, 43: 674
- Tuberculosis of the uterus COURRIADIS and JAULIN J de méd de Bordeaux, 1935, 112: 320
- Infarct of the uterus MONDOR, LAMY, and GAUTHIER-VILLARS Ann d'anat path, 1935, 12: 472
- A new method of treating ulceration of the cervix accompanied by hemorrhage with clay MONGIE Compt rend Soc franç de gynéc, 1935, 5: 107
- Adenoma of the cervix treated with radium P MEYER Bull Soc d'obst et de gynéc de Par, 1935, 24: 239
- The treatment of uterine fibroma F PAPIN J de méd de Bordeaux, 1935, 112: 271
- Curetage in the treatment of hemorrhagic uterine fibromas near the menopause R ARAYA Rev méd Lat-Am, 1935, 20: 381
- Operation or irradiation treatment of myoma? A report on clinic cases treated in the period from 1920 to 1930 H GUTHMANN and W ATZERT Monatsschr f Geburtsh u Gynaek, 1935, 98: 321. [252]
- The malignant degeneration of the cervical stump following supravaginal hysterectomy M SCHUETTE. 1934 Freiburg 1 Br, Dissertation
- Cervical cancer D G MORTON California & West Med, 1935, 42: 345
- Cancer of the cervix L FRANK Kentucky M J, 1935, 33: 240

An additional method of examination for the recognition of carcinoma of the cervix O BANDILLA Med Klin, 1934, 2: 1693

Cystoscopic examination in patients with cancer of the cervix before and after radium irradiation G KULITZY Orvosi hetil, 1934, p 1059

The modern treatment of cancer, particularly of the uterus and breast A OSTRCIL Čas lék. česk, 1934, p 1189

The effect of gonadotropic substances from pregnancy urine on cervical carcinoma. E STOECKL Ztschr f Krebsforsch, 1934, 41: 292

Newer orientation in the roentgenological treatment of carcinoma of the cervix C BUTLER and D MARTÍNEZ-OLASCOAGA Arch uruguayos de med, cirug y especialidades, 1935, 6: 219

Our experiences with irradiation therapy of carcinoma of the cervix O NEBESKY Monatsschr f Geburtsh u Gynaek., 1934, 97: 317 Radiol Rdsch, 1934, 3: 168

Results of irradiation in uterine carcinoma F VOLTZ Radiol Rdsch, 1934, 3: 165

A mortality study in carcinoma of the uterine cervix treated by irradiation R E FRICKE Am. J Roentgenol, 1935, 33: 670

Clinical types of uterine perforation during curettage J BERNARDBLIG Bull Soc d'obst et de gynéc de Par, 1935, 24: 260

Adnexal and Peritubal Conditions

Operative therapy of chronic inflammatory diseases of the uterine adnexa G HALTER Zentralbl f Gynaek, 1935, p 310

The treatment of purulent adnexal tumors by my method S S BARJAKTAROVIC Monatsschr f Geburtsh u Gynaek, 1935, 98: 352

Sterility of tubal origin J V URIARTE Rev de cirug, Hospital Juarez, Mex, 1935, 163

Ciliary cells in the epithelium of the human fallopian tube P VON MIHALIK Ztschr f mikrosk-anat Forsch, 1934, 36: 459

The formation of clia in the fallopian tubes. P VON MIHALIK Anat. Anz, 1935, 79: 259

Fatal air-embolus after tubal insufflation O P MANSFELD and A. DUDITS. Zentralbl f Gynaek, 1934, p 2117

The surgical treatment of sterility of tubal origin R AMOR Rev de cirug, Hospital Juarez, Mex, 1935, 151

The treatment of sterility by tubal implantation into the uterus J TIROLF 1934 Leipzig, Dissertation

Sterilization by application of heat to the fallopian tubes H WERNER Chirurg, 1934, 6: 843

Sterilization by implantation of the tubes into the musculature of the uterus K NELLER Chirurg, 1934, 6: 837

Contribution to the lymph vessels in the ovarian parenchyma S INOHARA Zentralbl f Gynaek, 1935, p 98

Local homostimulating treatment of ovarian insufficiency, intra-ovarian injection of ovarian extract C STANCA Zentralbl f Gynaek, 1934, p 2373

Corpus luteum hemorrhage E BODE Zentralbl. f Chir, 1934, p 2963

Intra-abdominal hemorrhage due to varicose vessels of a corpus luteum cyst E WEHRUNG Bull Soc d'obst et de gynéc de Par, 1935, 24: 242

An abdominal syndrome due to rupture of the graafian follicle which led to appendectomy P PICCOLI Clin ostet, 1935, 37: 221

The etiology pathogenesis and treatment of sclerocystic ovaritis. M. A. MANZANILLA. Rev de ciruj Hospital Juarez Mex. 1935 100

The etiology pathogenesis and treatment of sclerocystic ovaritis. F. RIVES. Rev de ciruj Hospital Juarez Mex. 1935 121

Pelvicitis following hematogenous oophoritis in a child. R. AYZA. Beitr z path Anat. 1934 44 365

Struma ovarii. O. FRANKL. Zentralbl f Gynaek. 1934 p 2706

Abscess of the ovary. F. B. RISS and A. M. BRENO. Semina med. 1935 42 1301

Masculinizing cyst of the ovary with a report of two new cases. L. BENECAS. Arch f path. Anat. 1934 204 38

Suppuration of a dermoid cyst of the ovary following labor. C. R. ROBINS. South M J. 1935 28 415

Supportive typhoidal infections from ovarian cysts. L. HONECKER. Monatsschr f Geburtsh u Gynaek. 1934 68 202

Pedunculated parovarian cyst and dermoid cyst of the ovary in a young girl. J. VAN EERS. Bull Soc obst et de gynec de Par. 1935 24 203

Fertility simulating an ovarian tumor. W. FISCHER. Zentralbl f Gynaek. 1935 p 324

Bilateral ovarian tumor. H. PALCOT and J. HOUCAE. Bull Soc obst et de gynec de Par. 1935 24 205

A clinical contribution on dysgerminoma ovarii. E. KAPTEIN. Arch f Gynaek. 1934 153 544

Dysgerminoma of the ovary: a case report. O. HAJEK. Zentralbl f Gynaek. 1935 p 317

The effect of hormone injections on the development of ovarian grafts. G. JEANNEVEY. Bull et mém Soc nat de chir. 1935 61 513

External Genitalia

Newer studies of two cases of ulcers with the clinical picture of acute ulcer of the vulva with different bacteriological findings. C. SCHNEIDER. Dermat Wechnschr. 1934 2 1553

A case of melanoplastoma of the vulva. L. KUFFEL. Zentralbl f Gynaek. 1935 p 326 [252]

Adenocarcinoma of Bartholin's glands in young persons. G. BRECKENRIDGE. Dermat Wechnschr. 1935 1 101

The operative treatment of vaginal aplasia. A. WESTMAN. Nord med Tidskr. 1934 p 1688

Acute axial torsion of the vagina due to fibromatosis of the uterus. F. JEANNEVEY. J de méd de Bordeaux. 1935, 112 2 5

Theelin in the treatment of gonococcus vaginitis in children. B. READING. South M J. 1935 28 464

The treatment of leucorrhea. K. CREMER. Med Welt. 1935 p 108

A clinical report on the treatment of trichinoma vaginitis with anavodin. M. McA. JAFFRAY. New York State J M. 1935 35 528

The treatment of neovaginal and ureterovaginal fistulas. W. L. LOWER. Am J Surg. 1935 29 234

The operative technique for the formation of an artificial vagina. J. PALASKI. Zentralbl f Gynaek. 1935 p 403

A self retaining vaginal retractor. P. H. PICOT. Virgins M Month. 1935 62 93

Miscellaneous

The physiology of the genital organs in the newborn. L. DONATI and K. HOLLOSI. Orvosi hetil. 1935 p 40

The preperitoneal layer: its gynecological application. J. W. DAVIES. Surg Gynec & Obst. 1935 60 941

The reticulo-endothelial system in the menstrual cycle and in pregnancy. H. FISCHER. 1934 Frankfurt a M. Disseration.

Normal menstruation in castrated women treated with ovarian hormone. J. SAITO. Cas. lek česk. 1935 p 15

Physiology and the disorders of menstruation. F. BOVLES. Orvosi hetil. 1934 p 1172

Pains in association with menstruation. S. FREYER. Orvosi hetil. 1935 p 31

The surgical treatment of pelvic pain due to intractable functional dysmenorrhea and inoperable pelvic lesions. J. HOFFMAN. Texas State J M. 1935 31 5

Sex hormones and menstruation. J. KREBS. Gynaecologie. 1935, 34 146

Menstrual dysfunction in disorders of the personal life: their nature and treatment. F. B. ALLY. Endocrinology. 1935 10 255 [252]

The prognosis and treatment of secondary amenorrhea. E. H. RITTER. Med Klin. 1934 2 1694

Hypoplasia of the uterus with primary amenorrhea treated with very large doses of progynon. JACOB. Klin. Wechnschr. 1935 1 206

Practical results of gynecological endocrinology. C. BUCURA. Med Klin. 1934 2 1636

Newer results of studies on the hormones of the gonads and hypophysis. A. BILTZMANN. Zentralbl f Gynaek. 1935 p 21

Excretion of hormones of the anterior lobe of the hypophysis in genital carcinoma of the female. O. BRON and K. HENNER. Zentralbl f Gynaek. 1935 p 1

The value of the roentgenological study of the sella turcica in sexual functional disturbances in the female. H. Clinical study. O. BOKELMANN. Arch f Gynaek. 1934 158 173

The effect of the hormones of the anterior lobe of the hypophysis on the internal genitalia of mature women. J. ROSENBLATT. Zentralbl f Gynaek. 1935 p 90

The thyroid and the ovaries: experimental basis for the diiodothyroxin treatment of climacteric disturbances. A. LOEYER. Klin Wechnschr. 1935 1 4

The hormones of the sex glands: particularly the hormones of the corpus luteum. K. HENNER. Med. Wechnschr. 1934 2 1838

The effect of follicular and corpus luteum hormones on the anterior lobe of the hypophysis. C. CLAIBURN and W. BREITROCK. Klin Wechnschr. 1935 1 119 Arch f Gynaek. 1934 158 56

The effect of the corpus luteum on the activity of the uterus of rabbits. J. TÖRÖ. Magyar orv Arch. 1934 35 351 Arch f Gynaek. 1934 158 151

The sex hormones in precancerous conditions. J. HORTAUX. Zentralbl f Gynaek. 1935 p 9

Estrogenic hormones and carcinogenesis. I. LOEW. J. Am M. Soc. 1935, 104 1507

Pathological excretion of sex hormones in a case of dysmenorrhea dermatitis. F. UEBACH and S. KIRCHHOFF. Klin Wechnschr. 1935 1 221

The value of therapy with sex hormones. H. GIEBEL. Verhandl d deutsch f innere Med. 1934 p 368

The treatment of congenital disturbances with hormone preparations. K. HOFFMANN. Med Welt. 1935 p 22

The effect of the sex hormones upon postmenstrual eruptions due to endocrine disturbances. S. KIRCHHOFF and F. BREITROCK. Ztschr f exper M. 1935 61 109

Standardization of follicular hormones offered by various drug houses. M. ALEXANDER. Naunyn-Schmiedeberg's Arch. 1935 177 526

Some diagnostic errors in gynecology. W. KOLBE. Münchener med Wechnschr. 1935 1 10

- The treatment of prolapse in an old woman L BONNET. Bull Soc d'obst et de gynec de Par, 1935, 24: 195.
- The pathogenesis of gynecological hemorrhage A. OSTRÉL Rozhl Chir a Gynaek Č gynaek, 1935, 14: 24.
- Pathological histology in gynecological hemorrhage M. ŠELIGA Rozhl Chir a Gynaek Č gynaek, 1935, 14: 51.
- Abnormal bleeding in women after the age of fifty F A PEMBERTON and J S LOCKWOOD New England J. Med, 1935, 212: 1017.
- The treatment of obstetrical hemorrhage G MUELLER. Rozhl Chir a Gynaek Č gynaek, 1935, 14: 15.
- Medicinal and hormonal treatment of genital hemorrhage J SAIDL Rozhl Chir a Gynaek Č gynaek, 1935, 14: 38.
- Operative and irradiation treatment of gynecological hemorrhage J PAZOUREK Rozhl Chir a Gynaek Č gynaek, 1935, 14: 32.
- A urinary fistula of gynecological origin, and retrograde pyelography M LEROY Compt rend Soc franç de gynec, 1935, 5: 96.
- The operative treatment of urinary incontinence W MESTITZ Zentralbl f Gynaek, 1934, p 3046.
- The operative treatment of urinary incontinence in women A MANUJLOW Ztschr f urol, Chir, 1935, 40: 455.
- The formation of an artificial sphincter for urinary incontinence in women N P WERHATZKY Zentralbl f Gynaek, 1935, p 489.
- Rectal complaints in gynecology I THURY Magy Nygögy, 1934, 3: 191.
- Non-venereal infectious processes in the female genital organs W WEIBEL Muenchen med Wchnschr, 1934, 1: 430 [253].
- The treatment of gonorrhea with living vaccine W SCHULTZ Zentralbl f Gynaek, 1935, p 306.
- Pyrufer therapy for gonorrhea in the female E WOLLNITZA Dermat Wchnschr, 1935, 1: 201.
- The treatment of gonorrhea in the female by means of systemic and additional pelvic heating. W BIERMAN and E A. HOROWITZ J Am. M. Ass, 1935, 104: 1797 [254].
- A case of umbilical endometriosis E DELANNOY and H. BÉDRINE Bull Soc d'obst et de gynec de Par, 1935, 24: 206.
- Permanent results of irradiation of carcinoma of the female genitalia S SIMON Zentralbl f Gynaek, 1935, p 11.
- Fluorine therapy W. BENTHIN Med Welt, 1934, p 1686.
- Roentgen therapy in gynecology. F WITTENBECK. Monatsschr f Geburtsh u Gynaek, 1934, 98: 223.
- The duration of life of the spermatozoa in the human fallopian tube C A OHLIN Acta obst et gynec. Scand, 1935, 15: 50.
- Tubal implantation for sterility A ZÁGON. Orvos-lépcs, 1934, 24: 258.
- Progress in radiology I Sterility II The hormones in gynecology E H RICHARDSON Virginia M Month, 1935, 62: 61.
- Failures in the sterilization of women A DOEDERLEIN Arch f Gynaek, 1934, 157: 429.

OBSTETRICS

Pregnancy and Its Complications

- The effects of preconception irradiation E HURDON Proc Roy Soc Med, Lond, 1935, 28: 872.
- The prospect of pregnancy following inflammation of both fallopian tubes H HEYMANS VAN AMSTEL Nederl Tijdschr v Geneesk, 1934, p 5459.
- The menopause and the biological diagnosis of pregnancy J L WODON Bruxelles-méd, 1935, 15: 701.
- The pregnancy test of the urine V REČEK Čas lél. česk, 1934, p 1347.
- The chemical test for pregnancy W HECKSTEDEN Deutsche Ztschr f gerichtl Med, 1935, 24: 253.
- The chemical pregnancy reaction of Visscher and Bowman J G MENKEN Deutsche med Wchnschr, 1934, 2: 1837.
- Studies of the histidine content of the urine as a rapid chemical method of diagnosing pregnancy G ROSSELLI Clin ostet, 1935, 37: 193.
- A new active substance isolated in the urine of pregnant women and its physiological action J BAUMANN Orvosi hetl, 1934, p 1138.
- The early diagnosis of extra-uterine pregnancy H EYMER Med Welt, 1934, p 615 [255].
- The intermediary metabolism in pregnancy II Nutritional fat and the blood fat O BOKELMANN and A Bock Arch f Gynaek, 1934, 158: 505.
- The respiration and circulation of pregnant women with pulmonary and thoracic disease R HANSEN Ztschr f Geburtsh u Gynaek, 1935, 110: 121.
- The excretion of porphyrin during normal pregnancy and its relation to the hemoglobin metabolism C CARRIE and L HFOELD Arch f Gynaek, 1934, 158: 54.
- The excretion of porphyrin in normal and pathological pregnancy C CARRIE and L HFOELD Klin. Wchnschr, 1935, 1: 196.
- Obstetrical complications J M BERGLAND New England J Med, 1935, 212: 1033.
- The treatment of hyperemesis gravidarum W T SCHMIDT Monatsschr f Geburtsh u Gynaek, 1934, 98: 215.
- A case of hyperemesis gravidarum treated by pneumo-pentoneum V MONALDI and L PRALORAN Clin ostet, 1935, 37: 205.
- Edema of pregnancy, the hypophysis, and the fallopian tubes E LÉVI-SOLAL and M LAUDAT Presse méd, Par, 1935, 43: 601.
- The blood indican in the toxemias of pregnancy. PETTI Arch d'ostet e gynec, 1935, 42: 292.
- Hepatic toxemia of pregnancy with herpes P GELLÉ Bull Soc d'obst et de gynec de Par, 1935, 24: 199.
- Late toxemias of pregnancy L A. LANG Minnesota Med, 1935, 18: 287.
- The use of a cholomester in certain toxemias of pregnancy L CAVAGNINO Ginecologia, 1935, 1: 333.
- The management of pre-eclamptic toxemia and eclampsia A report of the American Committee on Maternal Welfare J Am M Ass, 1935, 104: 1703.
- Sudden amaurosis with papilloretinitis in an eclamptic A BIDOIRE Bull Soc d'obst et de gynec de Par, 1935, 24: 107.
- Volvulus complicating pregnancy at the eighth month H A RIDLER. Med J Australia, 1935, 1: 370.
- Neuritis, a complication of pregnancy J O BLACHE J Nat M Ass, 1935, 27: 63.
- A case of organic hemiplegia during pregnancy J BAZÁN and F A U IMAZ Semana méd, 1935, 42: 1287.
- Uteroplacental apoplexy probably of traumatic origin, difficulties in diagnosis A BFOCHIER and N BOULEZ Bull Soc d'obst et de gynec de Par, 1935, 24: 215.
- Diabetes in pregnancy B C NALLE South M & S 1935, 97: 248.

- Intestinal obstruction and pregnancy L. HAVLÁEK *Cas lek čech.* 1934 pp 1317-1344 [255]
 Pelvic infection during pregnancy H. CLASSEN 1934
 Hamburg Dissertation
 Renal tuberculosis and pregnancy C. PIERRE *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 108
 The grave risk of hookworm disease as a complication of pregnancy C. A. WICKRAMASEKERA *J. Obst. & Gynaec. Brit. Emp.* 1935 42 217 [255]
 Uterine tumor complicating pregnancy W. H. MEADE *J. Michigan State M. Soc.* 1935 34 293
 Cystic tumor of the sublingual gland and pregnancy R. LUN *Zentralbl. f. Gynaek.* 1934 p. 2991
 Fibromyoma and pregnancy C. ALVAREZ *Arch. de med. cirug. vespical.* 1935 38 104
 A case of Krukenberg tumor and pregnancy F. WENDT *Svenska Läkartidningen* 1935 p. 51
 Several cases of retention of a dead fetus in the uterine cavity M. KELLER *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 246
 The management of abortion R. S. CROOK and A. H. LAURMAN *Wisconsin M. J.* 1935 34 327
 Perforation of the uterus during curettage after abortion C. M. RUSSET *Pol. Soc. de cirug. de Rosario* 1934 2 310
 Abortion from the classical moral and contemporary socialist standpoint J. DEJ. MARKA *Rev. de cirug. Hospital Juárez Mex.* 1935 p. 210
 Changes of the blood lipids after therapeutic abortion for tuberculosis F. CASAPARI *Ginecologia* 1935 1 121
 Primary actin mycosis of the female genitalia following abortion J. JUCHANS *Monatsschr. f. Geburtsh. u. Gynaek.* 1934 69 193
 Placenta previa f. KELLER *Mazg. Nov. 30* 1934 3 215
 The occlusive type of placenta previa SOSA Y. SCHNEZ *Rev. med. Sal. Am.* 1935 20 415
 Placenta previa hemorrhage into the amniotic cavity H. PACOR *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 204
 Uterus with placenta previa in situ incised W. PINXTER *Ztschr. f. Geburtsh. u. Gynaek.* 1935 110 222
 The pathogenesis of fetal hernias in the fetus A. CROCHIERI *Ginecologia* 1935 14 255

Labor and Its Complications

- The course of labor in old primiparae C. S. CHANE *1934 Hamburg Dissertation*
 Pelvic girdle and labor W. WEINL *Wien klin. Wchnschr.* 1934 1 625
 Follicular treatment of weak labor pains J. KERNEL *Vord. med. Zeitsch.* 1935 p. 8
 The intravenous use of pituitrin in old tetrae H. A. HANON *J. Obst. & Gynaec. Brit. Emp.* 1935 42 322
 Obstructed labor KERRY *New Zealand M. J.* 1935 14 110
 The coccyx as a cause of dystocia B. ORROW *Ztschr. f. Geburtsh. u. Gynaek.* 1935 110 211
 The mechanism of birth in teleost fishes H. KREAZER *Zentralbl. f. Gynaek.* 1935 p. 200
 A case of obstructed labor due to a bony stenosis of the cervix M. M. BASIN *Proc. Roy. Soc. Med. Lond.* 1911 28 81
 Normal pregnancy and normal labor in a case of extensive metastases of the liver f. carcinoma of the breast B. ORROW *Ztschr. f. Geburtsh. u. Gynaek.* 1935 110 212
 "Effort," complicated labor to the clinic: the value of this procedure to the general practitioner H. CROCHIERI *München med. Wchnschr.* 1934 1 100
 Rupture of an artery in the umbilical cord at the onset of labor H. PACOR *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 202
 Rupture of an umbilical vessel during labor PARL. *Ztschr. f. Geburtsh. u. Gynaek.* 1935 110 218
 Severe intracranial hemorrhage in normal labor and following cesarean section S. BERGHEIM *Mazg. Nov. 30* 1934 3 187
 The management of labor with placenta previa F. E. SUTTER *Rev. de cirug. Hospital Juárez Mex.* 1935 p. 209
 Indications and different techniques of the application of forceps in the superior strait R. SCHWARTZ *Semana med.* 1935 42 1132
 Cesarean section C. SCHWARTZ *Mazg. Nov. 30* 1934 3 190
 The vaginal cesarean section of Dührssen F. S. ROLLA *Rev. de cirug. Hospital Juárez Mex.* 1935 p. 190
 The vaginal cesarean section according to Duhrssen C. ZICKMANN *Rev. de cirug. Hospital Juárez Mex.* 1935 p. 190
 My technique in the Porto operation J. GUNZ *Rev. de cirug. Hospital Juárez Mex.* 1935 p. 198
 Considerations on pubiotomy I. C. S. SUTTER *Rev. franc. de gynéc. et d'obst.* 1935 30 185 [246]
 Failures in operative obstetrics in home practice and their treatment C. HOLTMANN *Arch. f. Gynaek.* 1934 158 221
 The manual separation of the placenta H. FRIEDRICH *1935 Gießen Dissertation*
 The value of tests for intact placenta W. BASTHART *Zentralbl. f. Gynaek.* 1935 p. 15

Puerperium and Its Complications

- The treatment of retention of the amniotic membranes F. FRIEDRICH *Med. Welt* 1934 p. 1575
 Late severe postpartum hemorrhage: digital curettage recovery KRON and BROCKMEYER *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 213
 The osmotic resistance of red blood cells in postpartum conditions D. TH. BROCKMEYER *Rev. franc. de gynéc. et d'obst.* 1935 30 20
 The treatment of puerperal fever by antistaphylococcal serum J. COLPARK *Lancet* 1935 115 1075 [254]
 Vein ligation in puerperal pyemia H. LEBEL *Fests. 1931* 1934 13 42
 The intravenous injection of animal carbon in the treatment of surgical infections with particular reference to puerperal fever J. SUTTER *Lichin Rome* 1935 42 202 1931 650
 A case of post-abortion septicemia due to the hemolytic streptococcus treated by immunotransfusion G. L. K. 1934 115 1075 1935 115 1075
 Autogenous infection in relation to puerperal pyemia R. K. L. 1934 115 1075 1935 115 1075
 The sequelae of puerperal gas bacillus infection H. WANDER *1934 Frangen Dissertation*
 Postoperative and postpartum phlebitis *Brit. Soc. d'obst. et de gynéc. de Par.* 1935 24 220
 Postpartum phlebitis: a subacute venous type of thrombosis A. ZICKMANN and C. LUTHER *Bull. Soc. d'obst. et de gynéc. de Par.* 1935 24 25
 Puerperal infection following embolism and death: the prophylactic injection of Vincent's serum A. ZICKMANN and J. DALBAC *Pol. et med. Soc. med. d. hosp. de Par.* 1935 51 670
 Cerebral tumor in the puerperium mistaken for an abscess A. MARTINELLI *Cin. et cl.* 1935 3 119

- The treatment of disturbances in breast feeding A HAAS *Med Welt*, 1935, p 17
- A study of acute mastitis of the puerperium A A MOON and B GILBERT *J Obst & Gynec Brit Emp*, 1935, 42: 268 [256]
- The treatment of puerperal mastitis with autogenous blood L SINN *Muenchen med Wchnschr*, 1935, 1: 133
- Massive collapse of the lung following childbirth. A report of two cases M F EADES *New England J Med*, 1935, 212: 813 [257]
- Puerperal osteomalacia. HAMANT and CHALNOT *Bull Soc d'obst et de gynec de Par*, 1935, 24: 280

Newborn

- Early mortality of the newborn P SIGALL *Zentralbl f Gynaek*, 1935, p 242
- Diphtheria in the newborn VORON, BPOCHIR, and COVAMIN *Bull Soc d'obst et de gynec de Par*, 1935, 24: 210

Miscellaneous

- Changes in thought in a half century of obstetrics J S FAIRBAIRN *Edinburgh M J*, 1935, 42: 63

- Some atypical obstetrical cases J LÖVSET *Med Rev* 1935, 52: 11.
- Bactericidal properties of the blood in obstetrics U SANTOMAURO, *Clin obstet*, 1935, 37: 108
- Toxic changes in the myocardium following the pre-eclamptic state H WINKLER *Monatsschr f Geburtsh u Gynaek*, 1934, 68: 107.
- Maternal mortality E HOLLAND *Lancet*, 1935, 228: 973
- True twinning in man H NAUJOKS *Ztschr. f Geburtsh u Gynaek*, 1934, 107: 135
- Hydatidiform mole and chorionepithelioma, hormonal reactions, diagnostic and prognostic value H MAZZA and C L DE LA CORINA *Semana med*, 1935, 42: 1000
- The origin of chorionepitheliomas and of emboli from trophoblastic fragments enclosed in the myometrium. J J CLIMMER and G H HANSMANN *Am J Obst & Gynec* 1935, 20: 526 [257]
- An ectopic chorionepithelioma E PHILIPP *Zentralbl f Gynaek*, 1935, p 2
- Embryonic mole and tuberculosis of the larynx FAUPEAU, BELLE, and DESORCHER *Bull Soc d'obst. et de gynec de Par.*, 1935, 24: 200

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- The treatment of Addison's disease with the whole adrenal gland C S HICKS and M L MITCHELL *Proc Roy Soc. Med, Lond*, 1935, 28: 932
- The treatment and prognosis of hypernephroma P BULL *Acta chirurg Scand*, 1935, 76: 270 [258]
- Primary carcinoma of the adrenal, report of a case S W DONALDSON and S C HOWARD *Am J Cancer*, 1935, 24: 75
- Two cases of perinephric abscess N CANTLIE *J Roy Army M Corps, Lond*, 1935, 64: 334
- Retrograde pyelography. A description of the routine procedure at Jefferson Medical College Hospital T R FETTER and R M SMITH *Radiology*, 1935, 24: 555
- The management of kidney injuries T H SWEETSER *Minnesota Med*, 1935, 18: 283
- Functional studies of the kidney, surgical prognosis in urology L MIGLIARDI *Arch ital di chir*, 1934, 38: 912
- Crossed unilateral ectopic kidney, clinical diagnosis R CASTEX, A ASTRALDI, and A V DICIO *Arch d mal d reins et d organes genito-urinaires*, 1935, 9: 91.
- The value of meatoscopy in the diagnosis of pyeloureteral conditions E SACCO *Arch ital di urol*, 1935, 12: 272 [258]
- Studies of the capillaries of the cortex of the kidney. The behavior of the capillaries of the cortical zone after enervation, sympathectomy, and decapsulation T CALZOLARI *Arch ital di urol*, 1935, 12: 160 [258]
- Studies of the capillaries of the cortex of the kidney. The behavior of the capillaries of the cortical zone in hypertrophy of the kidney T CALZOLARI *Arch ital di urol*, 1935, 12: 425 [259]
- The operative indications in renal ptosis R GOUVERNEUR and C CACHIN *Bull et mém Soc nat de chir*, 1935, 61: 575 [259]
- The diagnosis and treatment of hydronephrosis due to anatomical changes in the ureter M LOEWENECK *Deutsche Ztschr f Chir*, 1934, 244: 212
- Accessory renal vessels as the cause of intermittent hydronephrosis with sharp attacks of pain C JOHANNESSEN *Acta chirurg Scand*, 1935, 76: 345

- Considerations on a case of bilateral hydronephrosis in a pregnant woman H BLANC and P GUÉZIN *J d'urol mé d et chir*, 1935, 39: 208 [259]
- A traumatic rupture of hydronephrosis K HAUGSETH *Acta chirurg Scand*, 1935, 76: 451
- Renal pain in urology and its false interpretation A SANTALLA *Med Ibera*, 1935, 19: 533
- Cicatrical nephralgia VON BRANDIS *Zentralbl f Chir*, 1935, pp 461, 674 [260]
- A sensory and muscular syndrome of renal colic L A SUPRACO *Rev méd Lat-Am*, 1935, 20: 371
- Two cases of anuria successfully treated by decapsulation of the kidney A HUSTIN *Bull et mém Soc nat de chir*, 1935, 61: 503
- An anatomical and clinical study of a rare type of renal tuberculosis and associated renal disease E FRANCESCHI *Arch ital di chir*, 1935, 39: 453
- The clinical course of renal tuberculosis, correlation with differences in behavior of the infecting organisms in culture and animal experiments A VON ADLEP-RÁZC *Ztschr f urol Chir*, 1935, 40: 327
- Acquired renocolonic fistula P J RIABOFF *Ann Surg*, 1935, 101: 1291
- The diagnosis of carbuncle of the kidney A GUSZICH *Ztschr f urol, Chir*, 1935, 40: 449
- The roentgenographic diagnosis of renal growth and renal calculus Demonstration with lantern slides H WINSBURY-WHITE *Proc Roy Soc Med, Lond*, 1935, 28: 924
- The roentgenological diagnosis of renal and ureteral stone LAUBER *Zentralbl f Chir*, 1935, p 460
- The diagnosis of stone with X-rays C A WELLS *Proc Roy Soc Med, Lond*, 1935, 28: 909
- Nephrolithiasis G R LIVERMORE *Am J Surg* 1935, 28: 253
- Disturbances in the renal function in cases of ureteral and pelvic stones H SCHWEIDER *Zentralbl f Chir* 1935, p 460
- Bilateral renal lithiasis, nephrectomy, nephrostomy J F VELASCO *Med Ibera*, 1935, 19: 678
- Roentgen photography of the kidney during operation for stone PFLAUMER *Zentralbl f Chir*, 1935, p 461

Solitary cysts of the kidney J I RUSSELL. *Ann Surg* 1935 101 12,9

Tissue changes in mixed tumors of the kidney after roentgen therapy A E BOHR. *J Urol* 1935 33 434 [260]

The prognosis of malignant renal tumors E G MOTE and V B GOLDSMITH. *Proc Roy Soc Med Lond* 1935 28 905

Bilateral renal carcinomas A SPRENGER and M G BOHRD. *J Urol* 1935 33 427

A study of the twelfth rib and its variations: its application to the lumbar incision J MIVET. *Ann Chir Mal d reins et d organes génito-urinaires* 1935 9 47

Resection of the kidney H L KRETSCHMER. *Surg Gynec & Obst* 1935 60 984

Autonephrectomy with subsequent extrusion of the kidney through an emergency nephrotomy wound W H HAINES. *J Urol* 1935 33 404

Narrowing of the ureter N HORTOLOFF, T KATZ, GALATZ, N LARU and C VASILESCU. *Ztschr f urol Chir* 1935 40 375

Ureteral stricture and hydronephrosis as late sequelae of kidney injury D N EISENDRATH. *J Am M A S* 1935 104 1898

Hematuria from cystic ureteritis in pregnancy G M CRILLANT. *Arch ital di urol* 1935 12 463 [261]

Uterovaginal fistula A E WEBB JOHNSON. *Lancet* 1935 228 1081

Simultaneous bilateral ureteral calculi P GATTA. *Chin chir* 1935 21 283

The diagnosis and treatment of ureteral calculi J FRANCOIS. *J d urol méd et chir* 1935 39 19

The treatment of ureteral stone MELTZER. *Zentralbl f Chir* 1935 p 403

The surgery for ureteral stone BOEMINGHAUS. *Zentralbl f Chir* 1935 p 459

Primary tumor of the ureter. End results in three cases A W HUNTER. *J Urol* 1935 33 443

Primary carcinoma of the ureter C P MARTIN and E DE LA PENA. *California & West Med* 1935 42 351

Ureteral transplantations: modifications of the methods A G BRUNER. *Am J Surg* 1935 28 210

Bladder Urethra and Penis

A foreign body in the urinary bladder J MINDER. *Ztschr f urol Chir* 1935 40 259

A splinter of wood found lodged in the urinary bladder J J CRANE and E F MOORE. *J Am M A S* 1935 104 1702

Removal of foreign bodies of the bladder G LOYS. *Bull et mém Soc d chirurgiens de Par* 1935 27 171

Foreign body of paraffin in the urinary bladder removed with xylol as solvent: a case report J H TURNER. *J Urol* 1935 33 41

Vesical diverticula J A H MAGOUN. *J Urol* 1935 33 474

Spontaneous intraperitoneal perforation of the bladder H W CAVE. *Am J Surg* 1935 28 242

Polyps of the apex of the bladder H BLANC. *J d urol méd et chir* 1935 39 200

The treatment of bladder tumors C C SMITH. *Pennsylvania M J* 1935 38 560

Carcinoma of the bladder V S COUNSELLER. *Surg Gynec & Obst* 1935 60 1017

Local complications following suprapubic operations on the bladder P BUCALOSI. *Rassegna internaz di clin e terap* 1935 10 439

A foreign body in the urethra S Q WEST. *Pennsylvania M J* 1935 38 621

Non purulent urethritis in women. Granular urethritis cystalgia J K ORLAND. *J Urol* 1935 33 431

Sub urethral abscesses and diverticula in the female urethra H D FURMAN. *J Urol* 1935 33 498

Plastic restoration of a totally destroyed urethra. A MANDELSTAM. *Zentralbl f Gynaek* 1934 p 3040

Genital Organs

The opening of both ducts deferentes into the bladder: aplasia of the prostate and seminal vesicles a hitherto unknown deformity F SCHWEIGERT. 1934 Erlangen Dissertation

Excretory urography in prostatic conditions A F KRAUS. *Ztschr f urol Chir* 1935 40 381

A histological study of hypertrophy of the prostate B FERROUX SEAB. *Ztschr f urol Chir* 1935 40 315

Short wave therapy for prostatic hypertrophy A CASULO. *Riforma med* 1935 51 543

Endo-urethral electrocoagulation for prostatic hypertrophy with the R Vogel catheter and some remarks on palliative operations on the prostate F BEST. *Ztschr f urol Chir* 1935 40 322

Wedge excision of the sphincter in prostatectomy: a contribution against endovesical restitutio of prostatic hypertrophy P BLATT. *Ztschr f urol Chir* 1935 40 294

The morphology of the small prostatic carcinoma R A MOORE. *J Urol* 1935 33 224 [261]

Radical cure of carcinoma of the prostate H H VOGEL. *Am J Surg* 1935 28 32 [261]

Resection in prostatic carcinoma R M BOBBITT. *West Virginia M J* 1935 31 202

Transurethral resection of the prostate DE LA PENA. *Prog de la clin Madrid* 1935 21 238

Radical perineal prostatectomy F A CHRISTIAN. *Bol Soc de cirug de Rosario* 1934 1 451

A new instrument for transurethral prostatectomy E KOENIGER and F F LEITER. *Ztschr f urol Chir* 1935 40 452

The cautery punch operation for the removal of obstructive lesion occurring at the vesical orifice in women and children J R CAULK and J F PATTON. *J Urol* 1935 33 504

In what cases should transurethral high frequency operations on the neck of the bladder be performed? F FUCHS. *Wien klin Wchnsch* 1935 1 140

Retrovaginal torsion of the spermatic cord O F MARZINI. *Bol y trab Soc de cirug de Buenos Aires* 1935 19

Hernia and hydrocele in children M LINDER. *Arch f klin Chir* 1934 181 418

The pathogenesis differential diagnosis and treatment of acute epididymitis F DIEBEL. *Med Klin* 1935 1 165

The value of vasectomy in inflammatory diseases of the epididymis J MINDER. *Ztschr f urol Chir* 1935 40 266

Non-descent of the testis G B MACACCI. *Policon Rome* 1935 42 102 clin 108

Biological examination of the urine in two cases of seminoma of the testis J DELUNO and P GUINHEM. *Bull Soc d obst et de gynec de Par* 1935 24 255

The specific malignant testicular tumor seminoma OBERNDORFER. *Schweiz med Wchnsch* 1935 1 104 [262]

Three cases of gangrene of the scrotum PETRASCH and FORUMBARU. *Rev rom Urol* 1934 1 415

Chorionepithelioma in the male and its hormonal effect in the form of pregnancy changes A SYMOWITZ. *Bohr z path Anat* 1934 94 370 [262]

Miscellaneous

- Anatomical studies of the hypogastric genital apparatus of the small pelvis in the infant and the embryo, with special consideration of its relation to the genito-urinary tract. G. TAROZZI and L. GARDINI. *Arch ital di urol*, 1935, 11: 555 [263]
- Urinary anomalies. H. SANOFF and D. MORGAN. *Pennsylvania M J*, 1935, 38: 393
- Genito-urinary infections with the Friedländer bacillus. L. V. BRUSH and VIALA. *J d'urolog med et chir*, 1935, 39: 103
- Mandelic acid in the treatment of urinary infections. M. L. ROSENTHAL. *Lancet*, 1935, 228: 1032

- The value of metaplen in the treatment of genito-urinary infections. C. H. M. T. SMITH and C. J. COONEY. *J Med Soc New Jersey*, 1935, 32: 204
- Combined abortive treatment of gonorrhea. H. ALALA. *J d'urolog med et chir*, 1935, 39: 227
- Experimental researches on the origin of urinary calculi. T. HEINTZHAU. *Ztschr f urol Chir*, 1935, 40: 211 [263]
- The non-operative treatment of urinary stone. S. POWELL. *Practitioner*, 1935, 134: 678
- Lymphogranuloma inguinale, its relation to structure of the rectum. W. RAISBY and W. H. COLE. *Arch Surg*, 1935, 30: 820 [264]
- Operative urology. R. LICHTENSTEIN. 1935. Berlin and Wien, Urban & Schwarzenberg

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc.

- Osteocereses, an experimental study. J. D. BISCARD. *Arch Surg*, 1935, 30: 748
- Studies on the dependency of bone formation in young suckling rats on the activity of the thyroid and parathyroid glands of the mother. A. NIRSCH. *Monatsschr f Kinderheilk*, 1934, 62: 31
- The action of the formation of blood and blood vessels in bone marrow. W. GROSS. *Arch f path Anat*, 1934, 291: 103
- Familial beny dystrophy with multiple exostoses. H. A. VIKOLASITAN and H. K. BLAIR. *Radiology*, 1935, 24: 623
- Tumors of the parathyroids and associated bone pathology. T. A. SHALLOW. *Ann Surg*, 1935, 101: 1275
- A contribution on bone and joint inflammation in young children. G. PASCHLAU. *München med Wchnschr*, 1934, 2: 1882
- Epithelialization of chronic osteomyelitic cavities, a pre-cancerous lesion. A. BERNSTEIN. *Radiology*, 1935, 24: 627
- Traumatic ossifying periostitis. K. HORSCH. *Zentralbl f Chir*, 1934, p. 2499
- Anatomical distribution of skeletal tuberculosis and its roentgenological and clinical demonstration. H. B. RAYOS. *Rev de chirug de Barcelona*, 1934, 4: 89
- Bone tumors. E. I. BARTLETT. *West J Surg Obst & Gynec*, 1935, 43: 276
- Giant-cell tumor. H. L. SNYDER. *J Kansas M Soc*, 1935, 36: 180
- The question of myeloma. L. MATTHEW. *Beitr z Klin Chir*, 1935, 161: 79
- Xanthomatosis involving bone (lipoid histiocytosis). Case reports and roentgen findings. L. A. SMITH. *Radiology*, 1935, 24: 521 [265]
- Xanthomatosis generalisata ossium, report of a case simulating osteitis fibrosa cystica. D. H. SHULTING and A. L. VOSHELL. *Arch Int Med*, 1935, 55: 592 [265]
- Two cases of osteitis cystica fibrosa which were operated upon. A. J. A. ANDERSEN. *Acta chirurg Scand*, 1935, 76: 382
- The healing process following fresh osteotomy. K. KRATOCHWIL. *Ztschr f orthop Chir*, 1934, 62: 323
- Arthritis and tonsillar infection. H. A. NISSEN. *New England J Med*, 1935, 212: 1027
- Arthritis deformans and spondylitis deformans. F. J. LANG. 1934. Berlin, Springer
- The treatment of acute arthritis. L. A. WEBER. *Semana med*, 1935, 42: 1200

- The classification and treatment of chronic arthritis. J. W. GRAY. *J Med Soc New Jersey*, 1935, 32: 259
- Chronic arthritis treated by gold. H. S. PRINCE. *Lancet*, 1935, 228: 1037
- The present status of the problem of "rheumatism", a review of recent American and English literature on "rheumatism" and arthritis. P. S. HENCH, W. BAUER, A. A. FLETCHER, D. GILBERT, I. HALL, and P. WHITE. *Ann Int Med*, 1935, 5: 1495
- The significance of overstretching the muscles in paralysis. A. LANGE. *München med Wchnschr*, 1935, 1: 91
- Hansen's disease (myotonia congenita). B. I. COMB. *Am J M Sc*, 1935, 189: 714
- A clinical and pathological study of giant-cell tumors of the tendon sheaths. W. H. TROTTER. *Deutsche Ztschr f Chir*, 1934, 241: 63
- The treatment of epicondylitis of the humerus. H. PIRKLE. *München med Wchnschr*, 1935, 1: 246
- Bone injuries of the elbow joint due to working with compressed-air drills. R. SEYMOUR. *Beitr z klin Chir*, 1935, 161: 37 [266]
- Five generations of one family with Dupuytren's contracture. H. DIETRICH. *Ztschr f orthop Chir*, 1934, 62: 321
- Osteochondroma of the first rib. P. MOIRA and I. RODRIGUES. *Rev bras de cirug*, 1935, 4: 129
- Injuries to the vertebra and intervertebral disks following lumbar puncture. C. N. PLATT. *Am J Dis Child*, 1935, 49: 839 [267]
- The problem of adolescent dorsal kyphosis. DIJNO. *Arch de med, cirug y especial*, 1935, 16: 265
- Vertebra plana, Calvé. A review and the report of two cases. H. SUNDT. *Acta chirurg Scand*, 1935, 76: 301 [267]
- Back strain and sciatica. I. R. OHLER. *J Am M Ass*, 1935, 104: 1580
- The mechanistic conception of sciatica. V. L. HART. *J Lancet*, 1935, 55: 309
- Spondylolisthesis. G. MOSBRO. *Monatsschr f Kinderheilk*, 1935, 4: 167
- Sacroliathesis. A. MOUCHET. *Rev d'orthop*, 1935, 42: 97 [267]
- Syringomyelic arthropathy. S. KOHMAN. *Ztschr f orthop Chir*, 1934, 62: 247
- Acute osteomyelitis of the atlas and axis, with recovery. T. H. WILSON. *Proc Roy Soc Med, Lond*, 1935, 28: 902
- Chronic staphylococcal osteomyelitis of the spine. C. FLEMING. *Proc Roy Soc Med, Lond*, 1935, 28: 897
- Polyspondylitis marginalis osteophytica. L. R. SHORT. *Brit J Surg*, 1935, 22: 850 [268]
- Vertebral tuberculosis with multiple foci. M. PALTRI-VALERI. *Chir d organi di movimento*, 1935, 10: 590

Operative technique for the treatment of malignant and inflammatory diseases of the vertebral column. L. SCHÖNBERGER, Schweiz. med. Wchnschr. 1935 1 95

An osteo-arthrit in the dorsal intervertebral joints. L. R. SHORE, Brit. J. Surg. 1935 22 833 [268]

The pathology of the coccyx. H. LANGERER, Arch. f. klin. Chir. 1934 181 417

Misdiagnosis in patients with pain in the hip. B. SCHULZ, Deutsche med. Wchnschr. 1935 1 43 96

Status a and mechanics of the sound and paralyzed hip. IV. Dislocation of the pelvis and head of the femur on the paralyzed side in the frontal plane. W. THOMSEN, Ztschr. f. orthop. Chir. 1934 62 275

Coccyx disease of the hip. H. FRANK, München med. Wchnschr. 1935 1 457

Changes in the musculature of the buttock and the development of decubitus ulcer. W. C. MEYER, Arch. f. path. Anat. 1934 294 159

Sequences of experimental bacterial infection of the femur in rabbits. G. H. KESTLER, Surg. Gynec. & Obst. 1935 60 913

Bone cysts in enchondroma of the femur: resection and plastic operation. E. LOOSER, Deutsche Ztschr. f. Chir. 1935 244 331

A case of loose body in the knee joint. C. B. C. ANDERSON, J. Roy. Army Med. Corps Lond. 1935 64 336

Genu valgum following bone syphilis. I. KOPITS, Ztschr. f. orthop. Chir. 1934 62 301

Tabella (sesamoid) in the lateral head of the gastrocnemius. C. J. SUTRO, M. M. POMERANZ and S. M. SUTRO, Arch. Surg. 1935 30 777

Injuries to the crucial ligaments. H. MILCH, Arch. Surg. 1935 30 805 [269]

Dislocations in the ankle joint. F. BRAGARD, München med. Wchnschr. 1934 2 1937

Classification of weak feet in children and a method of analyzing footprints and heelprints. L. BIVINGS, Am. J. Dis. Child. 1935 49 1164

Flat foot in children. R. J. HARKENSTEIN, Monatsschr. f. Kinderheilk. 1935 4 143

A contribution on the effect of the autonomic muscle tonus on the pathogenesis of true fixed plastic flat foot. C. HUBERER and W. WINKLER, Ztschr. f. orthop. Chir. 1934 62 159

Osteous blastomycosis simulating tarsal scaphoiditis of young children. M. MEYER, A. R. SAKROY and J. MEYER, Presse méd. Par. 1935 43 334 [269]

Surgery of the Bones Joints Muscles Tendons Etc

A contribution on the treatment of osteomyelitis. P. MARTIN, Rev. med. de la Suisse Rom. 1935 p. 103 [269]

The treatment of acute osteomyelitis of the long bones by resection. M. FERRÉ, Presse méd. Par. 1935 43 390

The treatment of subcutaneous rupture of the tendons. H. REGELE, Arch. f. orthop. Chir. 1934 34 557

Total diaphysectomy of the humerus in a patient with chronic osteomyelitis. A. DE MOSCOSO, Bull. et mém. Soc. d. chirurgiens de Par. 1935 27 190

The functional treatment of Dupuytren's contracture. F. ORBACH, Arch. f. orthop. Chir. 1934 34 572

The Allee operation in the treatment of foot disease in infants. I. BALACROU and I. MARIAN, Presse méd. Par. 1935 43 643

Foot disease treated with an ankylosing graft: result at the end of two years. R. MAJART, Bull. et mém. Soc. d. chirurgiens de Par. 1935 27 212

Arthrodesis and arthrodesis in the surgical treatment of infantile paralysis. I. LEVI, Riforma med. 1935 51 3/4

Five cases of sacrocootalgia in the adult treated by fixation of the sacro-iliac joint. SARROSTE, Bull. et mém. Soc. nat. de chir. 1935 61 565

Amputation of the lower extremity and artificial limbs. M. ZER, Ztschr. Ergeb. d. Chir. 1934 27 195 [271]

The source of pain in amputation stumps in relation to the rational treatment. A. G. MOLOTOFF, J. Bone & Joint Surg. 1935 27 419

A case of herniation of the knee joint. F. GROSCH, Ztschr. f. orthop. Chir. 1934 62 3 6

Attempts at an operative treatment for intermittent claudication of the knee. F. MAYN, Zentralbl. f. Chir. 1935 p. 415

Operations upon the knee. A. WITTEK, Feilw. v. Ärzte Steiermark 1935 p. 120

Arthrosis of the ankle. J. RIO ALTO, Med. Ibera 1935 19 659

The treatment of congenital club-foot. L. MAURO, Ztschr. f. ital. d. chir. 1934 38 862

The correction of pes cavus. A. LORENZ, Ztschr. f. orthop. Chir. 1934 62 140

Transverse wedge arthrodesis for the relief of pain in rigid flat foot. I. ZANEK, J. Bone & Joint Surg. 1935 27 453 [273]

The development of arthrodesis in paralysis of the foot. F. KLAVES, Zentralbl. f. Chir. 1934 p. 224

A study of the poor functional results following osteotomy of the first metatarsal for hallux valgus. W. ZAHN, Ztschr. f. orthop. Chir. 1934 62 315

Fractures and Dislocations

The treatment of fractures and its present status. W. WOLZNER, Ztschr. f. a. erall. Fortbild. 1935 31 39

The use of elastic pressure in the treatment of fractures. M. H. GYSEVING, Acta chirurg. scand. 1935 76 472

The use of rustless suture nails in the treatment of fractures. O. HILGENVELDT, Deutsche Ztschr. f. Chir. 1935 244 413

The Kirschner pin in children. L. ROCHER and L. POUYANNE, Bull. et mém. Soc. nat. de chir. 1935 61 590

Errors in the open reduction of fractures. I. SEIFFERT, Chirurg. 1935 7 52

The treatment of fracture of the humerus: a new apparatus for extension. SCHUPP, Zentralbl. f. Chir. 1935 p. 534

Fractures of the forearm or leg. E. W. CLARYS, Lab. forma & West Med. 1935 42 350

Fractures of the forearm in children. F. FURBER, Hygiea Stockholm 1935 97 49

Fractures of the head and neck of the radius: separation of the upper radial epiphysis. S. G. JONES, New England J. Med. 1935 212 914

Atypical spreading dislocation fractures in the wrist. F. C. SCHNECK, Monatsschr. f. Unfallheilk. 1935 42 76

Palmar dislocation of the lower carpal bones of fifteen days duration. BREITENSTEIN, Bull. et mém. Soc. d. chir. urgens de Par. 1935 27 30

The conservative treatment of total dislocation of the lunate bone. I. C. SCHNECK, Beitr. z. klin. Chir. 1935 161 122 [273]

Fracture of the carpal lunate: its diagnosis and treatment. I. DÄNDEL, Ortopedika 1934 24 215

Metacarpophalangeal dislocation of the index finger with in position of a sesamoid bone. B. PISTOR, Ztschr. f. ital. d. chir. 1935 3 3

Fracture of the first rib. K. SCHNECK, Beitr. z. klin. Chir. 1935 161 8

Atlanto axial dislocations unassociated with trauma and secondary to inflammatory foci in the neck. J. H. HILL, I. P. BRUNSTEN and S. M. ANDERSON, Am. J. Dis. Child. 1935 49 1137

Unilateral subluxations of the cervical vertebrae without associated fracture B B SIMSON and P C SWENSON [273] *J Am M Ass*, 1935, 101, 1578

Indirect fracture of the first three cervical vertebrae REISNER *Zentralbl f Chir*, 1935, p 459

Medicolegal aspects of traumatic injuries to the vertebral column T LANG *Deutsche Ztschr f Chir*, 1935, 244, 279

Traumatic injuries of the vertebra and their late sequelae H BAUMHACKER *München med Wchnschr*, 1935, 1, 127.

Fractures of the spine A G DAVIS *Pennsylvania M J*, 1935, 38, 583

Isolated fractures of the transverse processes of the lumbar vertebrae J CHAYANOV and R J L PFERENCIC *Rev de chir*, 1935, 54, 320

Fractured spine with fecal incontinence H. DODD *Lancet*, 1935, 228, 1215.

Vertebral fracture and invalidism following it N PAUS *Norsk Mag f Lægevidensk*, 1934, 95, 1208

Psychotherapy and active treatment in fractures of the vertebrae F JIMENO-VIDAL *Rev de cirug de Barcelona*, 1934, 5, 1

The mechanism and treatment of fractures of the bodies of the vertebrae R SCHOTTE *Rev belge d sc méd*, 1935, 7, 157

Local anesthesia in fractures of the vertebral column F. JIMENO-VIDAL. *Rev de cirug de Barcelona*, 1934, 5, 164

Painful congenital subluxation of the hip A OWFI *Acta chirurg Scand*, 1935, 76, 369

Newer treatment for congenital dislocation of the hip with abducting apparatus I BAUFF *Med Klin*, 1935, 1, 110

Indications for the open treatment of congenital dislocation of the hip S SATANOWSKI *Semana méd*, 1935, 42, 1185

Spontaneous dislocation of the hip joint in children, its cause and prevention V L HAPT *J-Lancet*, 1935, 55, 281

Infarction of the acetabulum with intrapelvic penetration of the head of the femur GUILLERMO *Bull et mém Soc nat de chir*, 1935, 61, 610

Pseudarthrosis coli femoris A BRICKAL *Acta chirurg Scand*, 1935, 76, 352

Slipping of the proximal femoral epiphysis The therapeutic results in 101 cases M M POMERANZ and M I SLOANE *Arch Surg*, 1935, 30, 607 [274]

Fractures of the femur H VON BRUCKE *Deutsche Ztschr f Chir*, 1935, 244, 405 [275]

The treatment of fractures of the neck of the femur K ANDERSEN *Acta chirurg Scand*, 1935, 76, 457 [276]

The treatment of fracture of the neck of the femur T GIOIA *Semana méd*, 1935, 42, 1188

Nailing of collum femoris fractures E. F. LINDBOE *Acta chirurg Scand*, 1935, 76, 325

The operative treatment of fractures of the neck of the femur S JOHANSSON 1934. Copenhagen, Levin & Munksgaard 1934 Leipzig, Thieme

Operative treatment of fractures of the neck of the femur by the extra-articular method of Sven Johansson L. BORHLER *Zentralbl f Chir*, 1935, p 137. [276]

Fractures of the neck of the femur; osteosynthesis by the method of Thomas L. ZILBO *Bol Soc de cirug de Rosario*, 1934, 1, 490

Osteosynthesis with an intramedullary graft, and fractures of the shaft of the femur in children BAIATISCO, POPESCO-STEFANIN, and BALUTA *Rev de chir*, Bucharest, 1934, 37, 551

Malunited subtrochanteric fracture of the femur. M H IERZMARK. *Ann Surg*, 1935, 101, 1294

The use of free rib grafts in the treatment of pseudarthrosis of the knee bones F BRUFER *Deutsche Ztschr f Chir*, 1935, 244, 445

Habitual dislocation of the patella G MOSKOFF *Ber bulg chir Ges*, 1934, 1, 87.

Fractures of the patella W C CAMPBELL *South M J*, 1935, 28, 401

Fractures of the knee joint involving the cartilage S WIDFOL *Acta chirurg Scand*, 1935, 76, 307

The use, as a provisional support for a patellar suture with horsehair, of continuous traction by a transquadriceps wire, in a case of refracture of the patella through the bed of a wire used for anterior hemioclage Consolidation and excellent functional result N MILLAVICH and M SIMOVICH *Bull et mém Soc nat. de chir*, 1935, 61, 590 [277]

A first-aid splint for fractures of the leg BIRKENFELD *Chirurg*, 1935, 7, 39

The surgical treatment of fracture of the tibia J VIERBROGL *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19, 72

Newer operative treatment of fractures of the upper end of the tibia involving the knee A KUMMER *Zentralbl f Chir*, 1935, p 593

Congenital flat foot I. SPIRO *Ztschr f orthop. Chir*, 1934, 62, 170

Fractures of the os calcis F JIMENO-VIDAL *Rev. de cirug de Barcelona*, 1934, 4, 90

Fracture of the body of the calcaneum T A OUTLAND *Pennsylvania M J*, 1935, 38, 487

Orthopedics in General

Conservative and operative orthopedics J HASS 1934 Vienna, Springer

Weight bearing instruments for walking H C TRUMBULL *Brit M J*, 1935, 1, 1070

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

Arteriovenous aneurism and asystole W T GOTHFRINGHAM and C ALVAREZ *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19, 32

A case of aneurism of the hypogastric artery. O USLAND *Med Rev*, 1935, 52, 1

Sympathectomy as a preliminary to the obliteration of popliteal aneurisms, with a suggestion as to sympathetic block in cases of ligature, suture, or thrombosis of the large arteries C E BIRD *Surg, Gynec & Obst*, 1935, 60, 926

Successful operative obliteration of a large aneurism of the femoral artery E BOSCH *Deutsche Ztschr f Chir*, 1935, 244, 351

Varices and the varicose syndrome J BAUMANN *Med Welt*, 1934, p 1751

The treatment of varices in ulcers of the leg K POLLNER *Orvostudés*, 1934, 21, 232

Obliteration treatment of varicose veins H FERIZ *Nederl Tijdschr v Geneesk*, 1935, p 774

Perivascular infection. R PROUST *Bull et mém Soc nat de chir*, 1935, 61, 608

Arteriography P DOS SANTOS Bull et mém. Soc nat. de chir 1935 61 585

Circulatory disturbances of the extremities G DE TAKÁTS Orvostudok 1934 24 84

Early diagnosis of circulatory peripheral diseases H C. RAYES Colorado Med 1935 32 370

The internal etiological treatment of venous disturbances K HOLZAPFEL Zentralbl f Chir 1935 p 83

Tuberculous arteritis W G HANSEN J Path & Bacteriol 1935 40 433 [278]

Perarteritis nodosa report of a case with fatal peritonitis hemorrhagic C K WEAVER and L H LERRY J Am M Ass 1935 104 1,000 [278]

Congenital arteriovenous fistulas of the extremities visualized by arteriography H T HORTON and R K GROSSMANN Surg Gynec & Obst 1935 60 978

The treatment of peripheral vascular disease by means of alternate negative and positive pressure L M LEVINS Tennsl aria M J 1935 28 570

Thrombosis by effort E KIRKWOOD West J Surg Obst & Gynec 1935 43 233

Thrombo-angitis obliterans L D TELFORD and J S B STOFFORD Brit M J 1935 1 863 [278]

Thrombo-angitis obliterans and the pathogenesis of vegetating l ulous dermatitis due to iodine H HERZENBERG and L MASUNIELSON Leit z path. Anat 1934 94 353

Studies on thrombosis and gangrene F ROST Zentralbl f Chir 1934 p 2

Arterial resection combined with unilateral suprarenal ectomy in the treatment of endarteritis obliterans of the extremities M DONATI Schweizer med Wchnschrt 1935 1 61 [279]

Thrombophlebitis and embolism with special reference to the danger of pulmonary embolism in the injection treatment of varicose veins F A THILIS Surg Gynec & Obst 1935 60 906

Embolism from saphenous thrombophlebitis and its prophylaxis J B SEARS New England J Med 1935 212 574

Embolism of the peripheral vessels J F ALBERT Nedert Tijdsch v Geneesk 1935 p 444

Embolism of the axillary artery in its lower third and of the left brachial artery axillary sympathectomy local anesthetic v gangrene of the hand and forearm d articulation at the elbow D EREBY Bull et mém Soc nat de chir 1935 61 546

Embolism of the left femoral artery femoral anastomosis failure due to a second embolism in the anterior and posterior tibial arteries high amputation recovery JAMMER GERARD-MANUANT and LAV R Bull et mém Soc nat de chir 1935 61 552

The surgical treatment of arterial embolism in the peripheral vessels of the extremities F P LICHTENBERG 1934 Hamburg Dissertation

Blood Transfusion

Recent studies on blood transfusion S LERNER Orvostudok 1934 24 185

Clinical experiences with blood transfusion J SZUSZT Orvostudok 1934 24 195

Blood transfusion in surgery H KANE Wien klin Wchnschrt 1934 2 1566

A psychophysiological study of the donor in blood transfusion Z CHISTILVERKJ Arch f klin Chir 1934 191 353

The evaluation of various methods of blood transfusion based on an experience with 1,000 cases A FILAR and A KARTASEVSKI Arch f klin Chir 1934 191 418

Lymph Glands and Lymphatic Vessels

Cutaneous manifestations of the lymphomatosis A B LOVYAN J Am M Ass 1935 104 1513

Malignant monoblastoma a variant of monocyte leukemia L A MITCHELL Ann Int Med 1935 8 15

The histogenesis of lymphomatosis J C FRANK and I E GERBER Am J Cancer 1935 24 5

Lymphosarcoma with ovarian involvement in a child R H WRIGHT Am J Cancer 1935 24 65

SURGICAL TECHNIQUE

Operative Surgery and Technique Postoperative Treatment

The value of the electrocardiogram in determining operative indications C BERNARD Orvostudok 1934 24 225

The operative technique of hemorrhoids H FRIEDWICH Chirurg 1935 7 73

Pre-operative medication H I LARLEY and D S MONTGOMERY Edinburgh M J 1935 42 5

Pre-operative and post-operative insulin treatment of diabetes C LARUE Riv ital diabet 1935 35 4

Operations on the aorta K STRICK Med Welt 1935 p 45

Surgery in diabetes F S BOUTZ South M & S 1935 93 245

Surgery in diabetes C S FARATS J Kansas M Soc 1935 37 17

The surgical relief of pain about the head and face W T CECILIAN South M J 1935 28 302

The treatment of acute threatening symptoms during and following operative procedures J Met III & Fort whr d Therap 1931 11 10

Metallic suture in operative wounds A A MEXIA Rev franc le gyn et d 1 1 15 32 201

Large quantities of fluids intravenously C P JERRY Northwest Med 1935 34 160

Water intoxication F C HELLMER C B & M 1935 and D J CERRY J Am M Ass 1935 104 1600

The value of oxygen therapy in medical cases A C NICHOL J Indiana State M Ass 1935 18 234

Experimenta 107 on the danger of air embolism following intravenous injections K NIKOLA Klin Wchnschrt 1935 1 55

Supportive phlebotomy of the upper extremity following an injection of serum and glucose TAMILAR and KIMMEL Bull Soc d'olisi et de gyné de Par 1935 24 320

Cas-bacillus infection following subcutaneous injections of drugs A BERNER Deutsche Ztschr f Chir 1935 244 34

Plastic operation for war contracture of the arm born A CECILIAN Geneesk Tijdsch v Nedert Indi 1934 6 15 0

The immediate getting up from bed after operative anesthesia H L WHELER Bull et mém Soc nat de chir 1935 61 420

Tracheal mechanical aspiration of succor secretions during ether anesthesia immediate postoperative tracheotomy a study of the fifty-one patients C LERWY Thal Arch (Klin) 1935 21 501

The nitrogen and chloride metabolism following operations J. T. R. SCHREUDER, JR., and W. BAER. *Klin Wchnschr*, 1935, 1: 219

Endocrinological aspects in the postoperative care of patients treated for cancer M. HERSCH. *Orvosközpész*, 1934, 24: 303

Postoperative complications and the weather. E. RAPPELT. *Deutsche Ztschr. f. Chir.*, 1935, 244: 537

Postoperative shock L. MANTEUFFEL-SZOEGE. *Polish Przegl. chir.*, 1934, 13: 606

Thrombosis and embolism P. G. SCHMIDT. *Chirurg*, 1935, 7: 124

A contribution to the problem of thrombosis and embolism W. DFNK. *Wien klin Wchnschr*, 1935, 1: 72

Postoperative thrombosis and embolism in the surgical department of the Neumuenster-Zuerich Hospital and Diagnostic Center in the years from 1910 to 1930 H. HESS. *Schweiz med. Wchnschr*, 1934, 2: 807

The present status of our knowledge concerning embolism S. FRFY. *Ztschr. f. aerzt. Fortbild*, 1934, 31: 313

Successful prevention of postoperative thrombosis and embolism W. KOENIG. *Verhandl. d. deutsch. Gesellschaft f. Kreislaufforsch.*, 1934, p. 247

Postoperative pulmonary complications and the postoperative use of the Trendelenburg position H. K. GRAY. *Minnesota Med.*, 1935, 18: 273

The treatment of postoperative and puerperal thrombophlebitis with leeches P. HAUPTSTEIN. *Med. Welt*, 1934, p. 173

A case of postoperative progressive skin necrosis H. KUEPFERS. *Zentralbl. f. Chir.*, 1935, p. 378 [281]

Acute dilatation of the stomach following laparotomy F. PALK. *Orvosközpész*, 1934, 24: 269

A case of postoperative anuria N. FRHS. *Acta chirurg. Scand.*, 1935, 76: 567

Antiseptic Surgery; Treatment of Wounds and Infections

Hand injuries and insurance M. JAROS. *Rozhl. Chir. a Gynaek. C. chir.*, 1934, 13: 270 [282]

Symptoms in workmen who use compressed-air tools A. ELL. *Presse med. Par.*, 1935, 43: 668 [282]

Typical sport injuries E. DOMANIG. *Wien klin Wchnschr*, 1934, 2: 1543

Skung injuries H. ANGERER. *Wien klin Wchnschr*, 1934, 2: 1515

Impaling injuries P. WURZEL. *Čas. lék. česk.*, 1934, p. 1362

The treatment of nail punctures H. S. DOLAN. *Canadian M. Ass. J.*, 1935, 32: 532

Automobile-door-handle injuries H. H. OGILVIE. *Texas State J. M.*, 1935, 31: 9

The Davidson tannic acid treatment of burns R. D. McCLELLAN and C. I. ALLEN. *Am. J. Surg.*, 1935, 28: 370 [283]

Röntgen changes in inflammation of the bones of the hand A. GLSZICH. *Orvosközpész*, 1934, 24: 976

Infection of the intestine R. GRÉGOIRE. *Bull. et mcm. Soc. nat. de chir.*, 1935, 61: 634

The vitamins in wound healing L. ZOLTAN. *Orvosi hetil.*, 1935, p. 12

The treatment of poorly healing wounds particularly gangrene of the extremities, with carbon dioxide R. COUET. *Therap. d. Gegenwart*, 1935, 76: 14

Orrinothorapy of subburn granulating wounds A. S. KOSDOBA. *Zentralbl. f. Chir.*, 1935, p. 159

The healing of experimental wounds and the sex glands. A. S. KOSDOBA. *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1934, 43: 557

The healing of wounds following the use of aniline dyes. A. S. KOSDOBA and A. B. RAIS. *Zentralbl. f. Chir.*, 1935, p. 380

The use of serum in surgical diseases F. ROST. *Zentralbl. f. Chir.*, 1934, p. 329

The sequelae of injuries and their legal evaluation from the standpoint of the physician MAGNUS. *Arch. f. orthop. Chir.*, 1934, 35: 93

The sequelae of injuries and their legal evaluation F. F. KOENIG. *Arch. f. orthop. Chir.*, 1934, 35: 87, 95

The treatment of tetanus E. B. BRADLEY. *Kentucky M. J.*, 1935, 33: 235

Tetanus and the operative treatment of wounds' H. VON SEESEN. *Schweiz. med. Wchnschr*, 1934, 2: 667

The first treatment of wounds and the preventive treatment of tetanus W. WENDEL. *Monatsschr. f. Unfallheilk.*, 1935, 42: 1

The symptomatic treatment of tetanus by intravenous anesthesia induced with evipan P. WALZEL. *Schweiz. med. Wchnschr*, 1935, 1: 80

Three cases of tetanus cured by simultaneous spinal and suboccipital serum injections J. NORDENFOT. *Ugeskr. f. Læger*, 1935, p. 116

The treatment of tetanus occurring in children with large intravenous doses of anti-tetanic serum and evipan-sodium anesthesia O. HOCH. *Zentralbl. f. Chir.*, 1935, p. 194

Chronic erysipeloid arthritis in human swine erysipelas S. KARTAL. *Deutsche Ztschr. f. Chir.*, 1935, 244: 332

Papillomatous warty dermatitis following erysipelas migrans W. BURCKHARDT. *Deutsche Ztschr. f. Chir.*, 1935, 244: 391

Adjuvants in the treatment of erysipelas in infancy F. C. NEFF and G. V. HEPRMAN. *J. Lancet*, 1935, 55: 273

Chemotherapy of erysipelas and other infections with prontosil H. T. SCHREUS. *Deutsche med. Wchnschr.*, 1935, 1: 255

The treatment of erysipelas with terpicin H. SCHAAF. *Muenchen med. Wchnschr*, 1934, 2: 1978

Is wound diphtheria again more frequent? A contribution to its treatment E. MELCHIOR. *Zentralbl. f. Chir.*, 1935, p. 481

A study on the blood-coagulating substance produced by staphylococci and its relation to disease M. PIJOAN. *Canadian M. Ass. J.*, 1935, 32: 476

A statistical study of actinomycosis H. GUTSCHFF. *Deutsche Ztschr. f. Chir.*, 1935, 244: 398

Recent findings of research on actinomycosis E. NEUBER. *Deutsche Ztschr. f. Chir.*, 1934, 244: 122. [283]

Tularemia, deer-fly fever J. W. STODEN. *Northwest Med.*, 1935, 34: 167

Tularemia and its occurrence in Oregon W. LEVY. *Northwest Med.*, 1935, 34: 161

Tularemia, a fatal case of the typhoid form caused by ingestion of the rabbit, autopsy report H. G. BRICK and W. C. MERKEL. *South M. J.*, 1935, 28: 222

Panaritium with particular reference to bone and joint infections E. HEDVIGER. *Orvosi hetil.*, 1934, p. 1106

Two panaritium with unusual infections N. A. NICOLAYSEN. *Acta chirurg. Scand.*, 1935, 76: 361

Infections of the hand A. JIRÁSEK. *Rozhl. Chir. a Gynaek. C. chir.*, 1934, 13: 238

Proper drainage of infections of the hand McM. HANCIFF. *J. Iowa State M. Soc.*, 1935, 25: 250

The conservative attitude in the treatment of acute pyogenic infections C. DONALD. *Brit. M. J.*, 1935, 1: 903 [283]

The source and production of sterile surgical maggots J. G. MOLNER and F. O. ADAMS. *J. Michigan State M. Soc.*, 1935, 34: 288

- Studies in bacteriophage H ZATSEFF JER. and F L MELENEY J Lab & Clin Med 1935 20 862
Two anaerobic organisms obtained by culture in two cases of gas gangrene S HANAWA Zentralbl f Bakter 1935 131 363
The effect of gan extracts in local pyogenic infections S REPADA Ztschr f exper Med, 1934 95 112

Anesthesia

- Advances in the treatment of pain C LOTHESEN Wip med Wchnschr 1934 1 1283
Some recent advances in anesthesia J K KLOPFEL J Indiana State M Ass 1935 28 217
The question of anesthesia and anesthesia P E A NILANDER Duodecim 1935 51 15
Anesthesia in orthopedics in children H MUENDRATH Muenchen med Wchnschr 1934 2 1934
The use of carbon dioxide during anesthesia G MOSKOWITZ and M IERSON Der bulg chir Ges 1934 1 23
The technique of evipan anesthesia A D WRIGHT Lancet 1935 2 8 1040
Evipan sodium in local anesthesia C LOTHESEN Zentralbl f Chir 1935 p 359
Six hundred and thirty eight cases of evipan sodium anesthesia G WIRFEL Svenska Lakartidningen 1934 p 1469
Four hundred cases of evipan-sodium anesthesia C PETTERS O Svenska Lakartidningen 1934 p 1465
Accidents due to evipan anesthesia STEINBAUER Zentralbl f Chir 1935 p 193
Simplified technique of prolonged anesthesia induced with sodium evipan HESTIV and WYDAW Bull et memo Soc nat de chir 1935 61 318
The use in general dentistry of brief anesthesia induced by the intravenous injection of evipan sodium K H LUK Deutsche Zahn usw Heilk 1934 1 384
Experiences with the newer anesthetic agents, avertin and percain E TROJAN Orvosképek 1934 24 117
Fatalities in percain anesthesia H VON MEYERBERG Festschr Zangger 1935 1 88 [284]
Experiences with pivocain in surgery H FLOECKER Muenchen med Wchnschr 1935 1 92

- Pernoxon anesthesia as a basic anesthetic H GREGG Deutsche med Wchnschr, 1935 1 170
Oil-ether anesthesia G VON LOBMAIER Riv di chir 1935 1 161
Anesthesia induced with ether vapor under pressure R The prevention of explosion M TIEGEL Zentralbl f Chir 1934 p 2908
General anesthesia R PARODY Bol Soc de chir de Rosario 1934 1 463
General anesthesia in allergic patients a review of 204 cases of tonsilectomy and radical antrum operations R H ANDER and R C GROVE New York State J M 1935 3: 539
A new intravenous anesthetic agent. HELM Chir 1934 6 742
Brachial plexus block anesthesia T B RNOVE Ann Surg 1935 101 1153
Spinal anesthesia P A VITTE J Iowa State M Soc 1935 25 230
Twenty-eight years experience with spinal anesthesia induced with tropicocain hydrochloride crystals and the instrumentarium of RIT W LIXHART Festschr Aer Aerzte Steiermark 1935 p 65
Peridural anesthesia of legs in gynecology a study of 415 gynecological operations with a total of 1,431 peridural anesthetics V ROTZ Rev med Lat Am 1935 20 599
Rectal anesthesia induced with ether oil G LOBMAIER Orvosképek 1934 24 5
Local anesthesia induced with percain for surgery of the upper abdomen J M JORGE and L FLOMAN Bol y trab Soc de chir de Buenos Aires 1935 10 80
A new field for the use of combined diethyl sodioformate as an intravenous injection in operations under local anesthesia M STEINBAUER Zentralbl f Chir 1935 p 385

Surgical Instruments and Apparatus

- The question of catgut W STORP Veroeffentl Heer essay Wes 1934 93 5
An improved suture material O MUELLER Muenchen Zentralbl f Chir 1935 p 310
An automatic ligating needle forceps F SMITH Arch Otolaryngol 1935 21 590

PHYSICO-CHEMICAL METHODS IN SURGERY

Röntgenology

- A simple method of making serial films with the Potter Luckey diaphragm W O WEISENTRAN Radiology 1935 24 625
The roentgenological significance of milk of calcium bile K KORNBLUM and W C HALL Am J Roentgenol 1935 33 611
Localized hypod-cell infiltration S TUNODA Zentralbl f Chir 1935 p 328
The X ray diagnosis of polypa cyst and tumors of the nasal sinuses C MOORE South W J 1935 28 456
Experimental pulmo-roentgenography and its stages (1) The alveolar stage—pulmo-alveolography—and (2) the lymphatic stage—pulmo-lymphography S KADZUKA and R JETTER Acta radiol 1935 10 361 [285]
A radiological study of intrathoracic lymphogranuloma and lymphosarcoma E R WILLIAMS Brit J Radiol, 1935 8 205
A roentgen study of the gastro-intestinal tract in chronic idiopathic adult tany L P FENDERGRASS and B I LOWROX Am J Roentgenol 1935 33 647

- A technique for using a small cone in check radiographs of the spine G R PEARSON Radiology 1935 24 601
Radiography of fine flaws in metal A G WARREN Brit J Radiol 1935 8 235
Ionization chambers for X ray dosage measurement H I JONES Brit J Radiol 1935 8 318
The "quality" of high voltage irradiators W V MEYER and J E ROBERTS Brit J Radiol 1935 8 141 [285]
The radiosensibility of renal tissue G JEFFERSON Radiol med 1935 22 497
Schueller Christian disease after X ray therapy patient living and under observation eleven years M R KANDLER Radiology 1935 24 591
Sterility and the X rays M HUNTER J Am M Ass 1935 104 1808

Radium

- An adhesive applicator for radium therapy A S JOHNSON Brit J Radiol 1935 8 208
Design of a flexible radium bomb with adequate protection delivering a homogeneous field of radiation at various

distances W S. NEWCOMET and B A HUGHES *Am J Roentgenol*, 1935, 33, 694

A semi-automatic implant cutter W STENSTROM and C E NURNBERGER *Radiology*, 1935, 24: 562.

Radium dosage and technique in carcinoma of the tonsil, pharynx, and larynx M CUTLER *Am J Roentgenol*, 1935, 33 690

Radium treatment of epithelioma of the penis R G HUTCHINSON *Brit J Radiol*, 1935, 8 306. [285]

The distribution of radiation from a typical penis mould H M PARKER *Brit J Radiol*, 1935, 8 315.

The pathology of radium burns M G LYNCH *Arch Otolaryngol*, 1935, 21 507 [286]

Miscellaneous

An outline of short-wave therapy. Physics, technique, indications An introduction to the physical, technical, and medical basis for the use of short waves by physicians and biologists W HOLZER and E. WEISSENBERG 1935 Wien, Maudrich

Different techniques in protracted external irradiation M. FRIEDMAN *Radiology*, 1935, 24 630

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

The influence of adrenalin on shock resulting from the removal of a hemostatic tourniquet P PANNELLA *Ann ital di chir*, 1935, 14 1 [287]

The nature of congenital deformities H DEBRUNNER *Arch f. orthop, Chir*, 1934, 34: 657

A case of transposition of the viscera D M GUIGOU. *Med Ibera*, 1935, 19 718

Cervical ribs combined with other anomalies of the vertebral column as a family condition T. SERCK-HANSEN *Acta chirurg Scand*, 1935, 76 551 [287]

Arachnodactyly (dystrophia mesodermalis congenita, typus marfan, Marfan's syndrome, dolichostenomelia) R. I. LLOYD. *Arch Ophth*, 1935, 13 744

Criteria of intolerable pain E B WAGGERT *Brit M J*, 1935, 1 1036

Some experiences with the calcium test of Fuchs F. FRIEDL and E. KULKA *Zentralbl f Gynaek*, 1934, p 2896

Hand-Schueller-Christian disease discussed on the basis of a complete study of the skeleton G GERSTEL *Arch f path Anat*, 1934, 294 278

The treatment of severe and light tetany with A T 10 O WINTERSTEIN *Deutsche med Wchnschr*, 1934, 2 1831

When is tetany to be treated with A T 10? F HOLTZ *Deutsche med Wchnschr*, 1934, 2 1830

A case of hyperplasia of the plantar aponeurosis with lesions of the sciatic nerve R LIBERTI *Policlin*, Rome, 1935, 42 sez med 319.

The operative treatment of diabetes T HUETTL *Orvoscézés*, 1934, 24 7

Surgery and tuberculosis R DEMEL *Schweiz med Wchnschr*, 1935, 1 66

Unilateral "winged scapula" following measles A M MACQUEEN *Brit M J*, 1935, 1 1025

Amebiasis F M SITTES *Kentucky M J*, 1935, 33 220

False botriomycosis in man V SERGI *Arch ital di chir*, 1935, 39 529.

The late results of the treatment of ulcers of the leg by operations on the sympathetic nerve combined with skin grafting as shown by fifty-two cases R LERICHE, R FONTAINE, and R MAITRE *J de chir*, 1935, 45 689 [287]

The differential diagnosis of lipogranulomatosis K. FREIL *Zentralbl f Chir*, 1934, p 2911

A contribution on the pathogenesis of multiple symmetrical lipomatosis—Madelung's disease W BRUNNER *Deutsche Ztschr f Chir*, 1935, 244 335 [288]

Lipogranuloma—a foreign-body inflammation often suggesting a tumor H F HARBITZ *Acta chirurg Scand*, 1935, 76 401 [288]

Typical mixed tumors of the salivary glands occurring on the fingers G GAERTGENS *Frankfurt Ztschr f Path*, 1934, 47 374.

A case of dyschondroplasia associated with multiple fibromas and angiomas A CASINI *Policlin*, Rome, 1935, 42 sez chir 193

Tumors of the neuromyo-arterial glomus A P STOUT *Am J Cancer*, 1935, 24 255 [288]

A case of reticulo-endothelioma of the thigh C LENORMANT and P MOULONGUET *Ann d'anat path*, 1935, 12: 425

The effect of methylene blue on the oxygen consumption and respiratory quotient of normal and tumor tissue J J. JARES *Am J Cancer*, 1935, 24 80

Neoplasm studies I Cells of melanoma in tissue culture C G GRAND, R CHAMBERS, and G CAMERON *Am J Cancer*, 1935, 24 36

Spindle-cell epidermoid carcinoma H E MARTIN and F W STEWART *Am J Cancer*, 1935, 24 273

Multiple primary malignancy A primary papillary carcinoma of the kidney pelvis associated with primary lymphosarcoma of the stomach V C HUNT and L C BENNETT *West J Surg, Obst & Gynec*, 1935, 43 265

Observations on a new therapeutic method of dealing with malignant tumors G OLLINO *Acta cancelr*, Budapest, 1934, 1 43

The early diagnosis of cancer by the method of Link L. RIEDL *Cas lek česk*, 1935, p 160

Our serological diagnosis of cancer, with particular reference to the Lehmann-Facijs reaction S NAKAGAWA, T TAKASUGI, S OGAWA, and J YOSHIDA *Klin Wchnschr*, 1934, 2 1755

Is cancer a virulent disease? A BÉCLÈRE *Presse méd*, Par, 1935, 43 737

Thrombophlebitis in cancer T G I JAMES and N M MATHESON. *Practitioner*, 1935, 134 683

X-ray carcinoma of both hands E H OCHSNER *Am J Surg*, 1935, 28 273

What success can we expect by using all of the modern aids employed in the treatment of cancer? L ZUKSCHWERDT and W GAISER *Muenchen med. Wchnschr*, 1935, 1 207

Some new studies on the internal treatment of cancer F BLUMFATHAL *Schweiz med Wchnschr*, 1934, 2 1061

Twenty-three years' experience in the treatment of cancerous conditions O KINGREEN *Beitr z klin Chir*, 1935, 161 19

The practical treatment of cancer III Results of colposcopic and microscopic studies of the cervix and their comparison F LOENNE *Muenchen med Wchnschr*, 1934, 2 1964

Observations in the use of irradiated blood in connection with cancer B E HYDE *Ohio State M J*, 1935, 31: 349.

The treatment of cancer by electrosurgery Diathermy coagulation in bone tumors tumors of the mandible treated by diathermy coagulation M KROEFF *Rev brasil de cirug* 1935 4 89

One hundred cases of sarcoma L DELREZ I VAN PÉE P DESUVE and P DUMONT *Rev belge d. s. méd*, 1935 7 1

Surgical and orthopedic indications in children C SPRINGER *Med Klin* 1934 2 1571 1622

Inflammation related to surgery A Mc KIN *Lancet* 1935 228 981 [288]

The concentration index of urinary substances and its value in surgery F W GOTTGEN *Hosp Tid* 1935 p 181

General Bacterial, Protozoan and Parasitic Infections

Blood stream infections L H KEEVES *Texas State J M* 1935 31 23

Defense mechanisms of the body in blood stream infections J P SIMOON *Texas State J M* 1935 31 26

Streptococcal septicemia treated with antitoxin R M RATES *Lancet* 1935 228 1134

Septicemia due to brucella abortus following operation L S FOTTER and N HARBURN *Brit M J* 1935 1 1068

Ductless Glands

The relations between the hypophysis and the endocrine glands the hypophysis and the pancreas R RIVOTTE *Presse méd* 1935 43 757

The posterior lobe of the pituitary gland its relationship to the stomach and to the blood picture F C DODDS and others *Lancet* 1935 228 1099

Pituitary cachexia with disturbance of the circulatory regulation the result of treatment with prolan C S

HICKS and F S HOWE *Proc Roy Soc Med Lond* 1935 28 935

Pituitary basophilism report of a case J H LAWRENCE and H M ZIMMERMAN *Arch Int. Med* 1935 55 245

The parathyroids and the carbon dioxide metabolism the effect of parathyroid extracts on the carbon dioxide content of normal blood A FERRACINI *Po klin Rome* 1935 42 sez med 285

The importance of the parathyroid glands in the regulation of the magnesium metabolism M Corro and P FREGONI *Sperimentale* 1935 89 67

Hyperparathyroidism O ANDOVICH *Arch uruguayas de med. cirug y especial*, 1935 6 309

An osteo-articular syndrome much relieved by parathyroidectomy RICHET SACREDI, FRACOLA, and JAROCIST *Bull et mém Soc méd d hop de Par* 1935 51 681

Surgical Pathology and Diagnosis

A plea for a more intensive study of surgical pathology H A STACY *Med J Australia* 1935 1 447

The sedimentation time in clinical surgery J DEBARRY *Presse méd* 1935 43 590

Hospitals Medical Education and History

The advance of medicine during the last quarter of a century SIR H ROLLESTON *Practitioner* 1935 134 577

Progress in medicine during the past twenty five years SIR W LANGLAND BROWN *Brit M J* 1935 1 907

Progress in surgery during the past twenty five years SIR C WALLACE *Brit M J* 1935 1 912

Surgery at the time of the introduction of antisepsis H E SIEGIST *J Missouri State M Ass* 1935 37 169

Progress in obstetrics and gynecology during the past twenty five years J S FAIRBANK *Brit M J* 1935 1 914

OCTOBER, 1935

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVEL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Authors of Articles Abstracted .. .	ii
II. Index of Abstracts of Current Literature	iii-vii
III. Collective Review	313-317
IV. Abstracts of Current Literature . . .	318-393
V. Bibliography of Current Literature .	394-416

Editorial Communications Should Be Sent to Allen B. Kanavel, Editor, 54 East Erie St., Chicago
Editorial and Business Offices: 54 East Erie St., Chicago, Illinois, U. S. A.
In Great Britain: 8 Henrietta St., Covent Garden, London, W. C. 2.

AUTHORS OF ARTICLES ABSTRACTED

- Abelson S M, 37,
 Albo M 376
 Alexander J 337
 Alclave P 379
 Allen E 334
 Bardin P 393
 Bauer W 391
 Bernard M R 365
 Bernhard 347
 Billet H R 371
 Borden D L 336
 Brea M M 334
 Brindeau A 364
 Broders A C 366
 Brorstein I P 377
 Brown R C 361
 Buch G H 334
 Caffaratto, I M 350
 Calabiano D, 363
 Calvet, J 345
 Calzolari T 335
 Carroll G G 335
 Cassidy M A 354
 Christiansen T 339
 Clegg H H 335
 Cogswell H D 382
 Cole H N 397
 Costantini H 377
 Cracron E C, 365
 Curtuller E 377
 Cuthbertson D P 324
 Dawson R 386
 Davidoff L M 327
 DeBailey M 321
 Decker H R 336
 Delarue J 383
 De Tarnowsky G 340
 Diddle A W 354
 Dulafe R 376
 Dion S H 323
 Driver J R 387
 Dyke C G 327
 Easton E R 393
 Ehrlich J C 381
 Elliot L Jr 383
 Elsberg L A 327
 Engle E T 354
 Epstein A 333
 Farati M 356
 Favill J 318
 Ferrari R C 334
 Franceschi E 366
 Francois J 368
 Frantz V K 346
 Fraser J 373
 Friedrich H 382
 Frummann Dahl J 331 381
 Gage M 321
 Gardner W U 354
 Gerber, I E, 381
 Gordon Taylor, G 342 376
 Greco T 379
 Guimarães A Filho 354
 Gudichsen R 342
 Guilloia G 334
 Hafström T G 344
 Harrington C R 324
 Heitz Boyer 370 371
 Henderson F F 34
 Hess J H 377
 Hinglais H 364
 Hinglais M 364
 Huntze, A 390
 Hirsch, E E 325
 Holland E 303
 Holst J 331
 Holtermann C 361
 Howet F 344
 Hunt V C 341
 Isch Wahl P 350
 Ivanisovich O 334
 Jansson G 307
 Justa Besancon, L 393
 Kadrnka S 330
 Keller R 362
 King A J 323
 King E S A 345
 Kurkin B R 339
 Kornblum K 366
 Kuzrok R 354
 Lane-Roberts C S 362
 Lenormant C 345
 Lindboe E F 378
 Lucchesi G 342
 Mackay R P 38
 Mackey W A, 324
 Magendie J 377
 Maisin J 371
 Maisonnaie A D 376
 Manges W F 335
 Martin, H E 329
 Martorell J 330
 Masca W N 353
 McMullin J J A 389
 Meleney F L 384
 Meltzer H 320
 Merletta, C 363
 Mitchell L A, 320
 Moore C 345
 Morad G 318
 Morlio L 351
 Morra G 352
 Motta 361
 Nelson, I A, 325
 Och net A 321
 Oehoecker F, 375
 Ollervides R Jr 351
 Olper L 368
 O Malley J F 319
 Ormond J K 369
 Outland T A 38
 Overgaard K, 376
 Pavlovsky A 323
 Pavlovsky A J 323
 Pesce C 359
 Pieri G 328
 Placeo F 343
 Pollock W C, 333
 Pompe J C 383
 Portes L 358
 Pourbaix V 391
 Pozzan V 365
 Priestley J T 366
 Quick D 323
 Reed J A 336
 Reinhard M C 387
 Richardson, E H 352
 Riviere, M 359
 Robecchi E 359
 Robes C 358
 Sabadini, L 318
 Salomana A G 353
 Salkeld K 319
 Santa L 330
 Sarma P J 346
 Schreiner B F 344 38
 Scott W W 372
 Semb C 331
 Séjournet, J 352
 Shambaugh P 319
 Shelesnyak M C 354
 Short A R 347
 Smith G G 369
 South P E 354
 Sora 333
 Spoto P 356
 Spurling R G 313
 Stecher, W R 373
 Steindler A 375
 Stewart E W 369
 Stasny H 374
 Stoppani F 343
 Strieder J W 331
 Sussman M L 343
 Taylor W N 367
 Traana Rao G 351
 Trusler H M 382
 Ulrich P, 320
 Valle G 360
 Vinós A R, 350
 Wanke R 318
 Watson, M C 355
 Wehr W H 387
 Weil P E 350
 Westermarck N 330
 Whipple A O 347
 Widmann B P 373
 Wiles P 376
 Wilson L, 354
 Zanetti S 350
 Zanne D 365
 Zocchi S 359 360

CONTENTS—OCTOBER, 1935

COLLECTIVE REVIEW

- TRAUMATIC EPILEPSY—A REVIEW AND ANALYSIS OF THE LITERATURE FOR THE YEARS 1932, 1933, 1934 R Glen Spurling, M.A., M D , F A C S , Louisville, Kentucky 313

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

Head

- WANKE, R The Anatomy and Pathology of the Diploic Veins 318

Eye

- MORARD, G Hydatid Cyst of the Orbit 318

Ear

- SALKELD, R The Cortical Mastoid Operation 319

Nose and Sinuses

- O'MALLEY, J F . Ventilation of the Nose and Accessory Sinuses 319

Mouth

- SHAMBAUGH, P . Tar Cancer of the Lip in Fishermen 319
MELTZER, H. The Diagnosis and Differential Diagnosis of Cancer of the Tongue 320

Pharynx

- BILLET, H R Pharyngo-Esophageal Diverticula Treatment by One-Stage Resection 321

Neck

- OCISNER, A , GAGE, M , and DEBAKEY, M Sclerous Anticus (Naffziger) Syndrome 321
PAVLOVSKY, A J , and PAVLOVSKY, A Amygdaloid Cysts of the Neck 323
DIONISI, H Tumor of the Carotid Body 323
QUICK, D Radium in the Treatment of Metastatic Epidermoid Carcinoma of the Cervical Lymph Nodes 323
HARRINGTON, C R The Biochemical Basis of Thyroid Function 324
CUTHBERTSON, D P , and MACKEY, W A The Parathyroid Glands 324
NELSON, P A , and HIRSCH, E F Roentgen Radiation Necrosis of the Larynx and Other Structures of the Neck 325
BAUER, W The Parathyroid Glands in Health and Disease 391

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

- DIEULAFÉ, R . The Symptomatology of Traumatic Subdural Hematomas 326
KORNBLUM, K The Responsibility of the Roentgenologist in the Detection of Intracranial Tumors 326
DYKE, C G , ELSBERG, C A , and DAVIDOFF, L M Enlargement of the Defect in the Air Shadow Normally Produced by the Choroid Plexus 327
COSTANTINI, H., and CURTILLET, E A Case of Bilateral Facial Paralysis Spino-facial Anastomosis and Resection of the Superior Cervical Ganglion on Both Sides 327

Spinal Cord and Its Coverings

- MACKAY, R P , and FAVILL, J Syringomyelia and an Intramedullary Tumor of the Spinal Cord 328

Sympathetic Nerves

- PIERI, G Clinical Contributions to the Surgery of the Sympathetic Nervous System VIII Surgery of the Intestinal Nerves 328

SURGERY OF THE THORAX

Chest Wall and Breast

- SANTA, L Myxomatous Tumors of the Breast 330
MARTORELL, J . Rapidly Disseminating Cancers of the Breast 330
ALLEN, E , GARDNER, W U , and DIDDLE, A W Experiments with Theelin and Galactin on the Growth and Function of the Mammary Glands of the Monkey 354

Trachea, Lungs, and Pleura

- WESTERMARK, N The Situation of the Pleural Exudate in Obstructive Atelectasis of the Lung 330
ZANETTI, S The Value of Roentgen Examination in the Surgical Treatment of Pulmonary Tuberculosis 330
HOLST, J , SEMB, C , and GRIMANN-DAHL, J On the Surgical Treatment of Pulmonary Tuberculosis 331
STRIEDER, J W , and ALEXANDER, J Multiple Intercostal Neurectomy for Pulmonary Tuberculosis 332

- POLLOCK W C Thoracoplasty and Contralateral Artificial Pneumothorax 333
 EYSTER A Complex Cases of Bronchial Dilatation 333
 IVANISSEVICH O FERRARI R C and BREZA M M Intracorpulmonary Suppurations Due to Cancer of the Lung 334
 GULLOTTA G Experiments on Resection of the Lung 334
 DELARUE J JUSTIN BESANCON L, and BARDIN P An Anatomical and Physiopathological Study of a Pulmonary Infarct of Embolic Origin 335

Heart and Pericardium

- BLANCH G H Suppurative Pericarditis 334

Esophagus and Mediastinum

- BILLER, H R Pharyngo-Esophageal Diverticula. Treatment by One Stage Resection 331
 MALES W F and CLERY L H Congenital Anomalies of the Alimentary Tract with Special Reference to the Congenitally Short Esophagus 335
 CARROLL G G Spontaneous Pneumothorax Coincident with Esophagoscopy A Report of Two Cases 335
 CALZOLARI T Nerve Tumors of the Mediastinum 335
 DECKER H R Many Malignant Tumors of the Thymus Gland 335
 ZORICH S and ROBERTS E A Roentgenological Study of the Topographic and Functional Changes in the Esophagus and Stomach During the Late Stages of Pregnancy 339

Miscellaneous

- REEP J A, and BOBLEN D L Eventration of the Diaphragm with a Report of Two Cases 336

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- SABAN Y L Acute Generalized Primary Peritonitis Complicating Scarlet Fever 338

Gastro Intestinal Tract

- KADENKA S Roentgenological Observations of the Automatism of the Formation of Folds of the Mucous Membrane in the Digestive Tract 338
 CHRISTIANSEN T Uremia as the Cause of Death in Massive Hemorrhage from Peptic Ulcer 339
 KIRKLIN B R Some Phases of the Roentgenological Diagnosis of Gastric Cancer 339
 HUNT V C Operability of Carcinoma of the Stomach 341
 GULLICHSEN K A Study of Intestinal Invagination Based on 234 Cases from 12 Hospitals in Iceland 342
 LUCCHESI G Changes in the Spleen in Experimental Intestinal Obstruction 342
 GORDON TAYLOR G A Successful Case of Septuple Bowel Resection and Sexuple Anastomosis with an Account of Some Personal Multiple and Complicated Intestinal Resections 342
 STEWART M L Inflammation of the Descending Portion of the Duodenum 343

- PLACED F and STOPPANI F Cecoplication 343
 HOWER F The Pathogenesis and Operative Treatment of Prolapse of the Rectum 344
 SCHREINER B F Successful Irradiation Treatment of Eight Cases of Inoperable Rectal Carcinoma 344
 ZOLCHER S and ROBERTS E A Roentgenological Study of the Topographic and Functional Changes in the Esophagus and Stomach During the Late Stages of Pregnancy 349
 SCOTT W W Repair of Rectal Tear and Recto-Urethral Fistula 342

Liver Gall Bladder Pancreas and Spleen

- HAYSTROM T G Takata's Modified Substrate Fuch in Reaction on the Blood Serum as Diagnostic Aid in Liver Diseases 344
 LEVORMANT C and CALVER J Large Non Parasitic Cysts of the Liver 345
 MOORE C Cholecystography Diagnosis of Papillomas and Tumors of the Gall Bladder 345
 HENDERSON F F and KIRKPATRICK S A Acute Pancreatitis 345
 DE TARNOWSKI G and SARMA P J The Surgical Treatment of Chronic Pancreatitis 346
 WHITTLE A O and FRANTZ V A Adenoma of Islet Cells with Hyperinsulinism 34
 BERNHARD The Surgery of Acute Pancreatic Diseases 347
 VALLE G On the Functional Capacity of the Liver in the Tetrazolins of Pregnancy and Their Sequelae and on the Obstetrical Use of Recent Methods of Testing Hepatic Function 350

Miscellaneous

- SHORT A P Abdominal Pain in Children 347

GYNECOLOGY

Uterus

- VINDS A R The Intramural Innervation of the Uterus 350
 WELZ P E and ISCHWARTZ P Uterine Hemorrhages without Uterine Lesions Hemorrhages of Hematogenic Origin Hematogenous Syndromes 350
 OLLERWIDES R, Jr Diathermy Coagulation in Cervicitis 351
 MORILLO L Tuberculous of the Uterine Cervix 351
 TEJADA RAO G Malignant Adenoma of the Cervical Canal 351
 SEJOURNET P Cancer of the Cervix Following Subtotal Hysterectomy 352
 RICHARDSON E H Total Versus Subtotal Abdominal Hysterectomy in Benign Uterine Disease 352

Adnexal and Peritoneal Conditions

- MORRA G The Behavior and Structure of the Round Ligament in Changes of the Position of the Uterus and Cases of Uterine Fibromyomas 352
 SORIA Anatomical Study of the Fallopian Tube with Regard to the Presence of Muscle Sphincters 353

SALAMANA, A G: Conservation of the Ovary in Hysterectomy... 353

External Genitalia

KING, A J, and MASCALL, W N Gonococcal Vaginitis in the Adult 353

Miscellaneous

ALLEN, E, GARDNER, W U, and DIDDLE, A W Experiments with Theelin and Galactin on the Growth and Function of the Mammary Glands of the Monkey 354

INGLE, E T, SMITH, P E, and SHELESNYAK, M C The Role of Estrin and Progesterin in Experimental Menstruation 354

KURZROK, R, WILSON, L, and CASSIDY, M A The Treatment of Amenorrhea with Large Doses of Estrogenic Hormone 354

GUINARÃES, A, FILHO Membranous Dysmenorrhea 354

WATSON, M C Observations on the Treatment of Dysmenorrhea with the Placental Extract, "Emmenn" 355

ULRICH, P Genital Hemorrhages with a Local Cause 355

FARATI, M The Gonodeviation in Obstetrics and Gynecology 356

SPOTO, P The Value of Prostigmin in Obstetrics and Gynecology 356

OBSTETRICS

Pregnancy and Its Complications

ROBLES, C Considerations Regarding the Clinical Pictures of Extra-Uterine Pregnancy 358

PORTES, L Uteroplacental Apoplexy 358

RIVIÈRE, M A New Contribution to the Clinical Study of Placental Hemorrhages 359

ZOCCHI, S, and ROBECCI, E A Roentgenological Study of the Topographic and Functional Changes in the Esophagus and Stomach During the Late Stages of Pregnancy 359

CAFFARATTO, T M, and PESCE, C Hemolysis During Pregnancy 359

ZOCCHI, S Cova's Tender Costolumbar Point in Pyelitis of Pregnancy 360

VALLE, G On the Functional Capacity of the Liver in the Toxemias of Pregnancy and Their Sequelae, and on the Obstetrical Use of Recent Methods of Testing Hepatic Function 360

Labor and Its Complications

HOLTERMANN, C Failures in Operative Obstetrics in Home Practice and Their Treatment 361

BROWNS, R C The Treatment of Obstetrical Disproportion 361

MOTTA, The Mechanism and Management of Brow Presentation 361

KELLER, R A Consideration of Cephalic Presentation in the Occiput Sacral Position at the Level of the Superior Strait 362

LANE-ROBERTS, C S The Use and Abuse of Forceps in Midwifery 362

Miscellaneous

HOLLAND, E Maternal Mortality 363

MERLETTI, C The Indications for, and the Technique of, Hypodermic Injections of Oxygen in Obstetrics 363

BRINDEAU, A, HINGLAIS, H, and HINGLAIS, M A New Method Permitting the Early Diagnosis of Malignant Chorionepithelioma After the Evacuation of a Mole 364

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

ZOCCHI, S Cova's Tender Costolumbar Point in Pyelitis of Pregnancy 360

BERNARDINI, R, and CALTABIANO, D Changes in the Sugar Content of the Blood Following Unilateral and Bilateral Denervation of the Suprarenal Glands 365

CRACIUM, E C, and ZANNE, D Experimental Studies of Hydronephrosis 365

POZZAN, A The Histological and Functional Process of Repair of the Kidney Following Temporary Uronephrosis 365

FRANCESCHI, E Renal Tuberculoma and Pseudo-neoplastic Renal Tuberculosis 366

PRIESTLEY, J T, and BROTHERS, A C Wilms' Tumor A Clinical and Pathological Study 366

TAYLOR, W N Papillary Epithelioma of the Renal Pelvis 367

JANSSON, G Roentgen Diagnosis of Papilloma of the Kidney Pelvis 367

FRANCOIS, J The Diagnosis and Treatment of Ureteral Calculi 368

OLPER, L A Case of Bilateral Adenomatous Polyposis of the Ureter and Renal Pelvis 368

Bladder, Urethra, and Penis

ORMOND, J K Interstitial Cystitis 360

SMITH, G G The Treatment of Bladder Tumors 360

ORMOND, J K Non-Purulent Urethritis in Women "Granular Urethritis-Cystalgia" 369

Genital Organs

HEITZ-BOYER Diverticulitis and Calculi of the Prostate 370

HEITZ-BOYER Prostatic Diverticulitis and Cancer of the Prostate 371

FUCHS, F In What Cases Should Transurethral High-Frequency Operations on the Neck of the Bladder Be Performed? 371

Miscellaneous

SCOTT, W W Repair of Rectal Tear and Recto-Urethral Fistula 372

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc.

FRASER, J Skeletal Lipoid Granulomatosis 373

- WIDMANN B P and STECHER W R. Rhizomono-
melorheostosis 373
- STIASNY H. The Hereditary Nature of Osteop-
sathyrosis 374
- STEINDLER A. Tuberculosis of the Wrist 375
- OEHLECKER F. Ankylosing Inflammation of the
Spinal Articulations—Spondylarthritis Ankylo-
poietica 375
- ALBO M and MAISONNAVE, A D. Joint Chon-
dromatosis Co-Existing with Two Bone Mal-
formations. An Osteogenetic Exostosis and an
Ossous Fissure Between the Fifth Lumbar and
First Sacral Vertebrae 376
- OVERGAARD K. Otto's Disease and Other Forms of
Protrusio Acetabuli 376
- Surgery of the Bones Joints Muscles Tendons Etc
- GORDON TAYLOR G and WILES P. Internomino-
Abdominal (Hind-Quarter) Amputation 376
- Fractures and Dislocations
- HESS J H, BRONSTEIN I P and ABELSON S M.
Atlanto-Axial Dislocations Unassociated with
Trauma and Secondary to Inflammatory Foci
in the Neck 377
- MAGENDIE J. Chronic Arthritis of the Ossifying
Type Following Fracture of the Spine 377
- LINDBOE E F. Nailing of Collum Femoris Frac-
tures 378
- OUTLAND T A. Fracture of the Body of the Cal-
caneum 378
- SURGERY OF BLOOD AND LYMPH SYSTEMS**
- Blood Vessels**
- WANKE R. The Anatomy and Pathology of the
Diploic Veins 378
- ALGLAVE P. The Treatment of Varices 379
- GREGO T. Post Traumatic Thrombosis of the
Carotid Artery 379
- Blood, Transfusion**
- CAPPARATTO T M and PESCE C. Hemolysis Dur-
ing Pregnancy 379
- BERNARDINI R and CALTABIANO D. Changes in
the Sugar Content of the Blood Following Uni-
lateral and Bilateral Denervation of the Supra-
renal Glands 379
- FRIEDRICH H. The Operative Risk in Cases of
Hemophilia 381
- Lymph Glands and Lymphatic Vessels**
- MITCHELL L A. Malignant Monoblastoma. A Va-
riant of Monocytic Leukemia 380
- ERLICH J C and GERBER I E. The Histo-
genesis of Lymphosarcomatosis 381
- TRUSLER H M, and COGSWELL H D. The Ques-
tion of Homoplastic Skin Grafting 382
- FRIMANN DAHL, J. Postoperative Roentgen Ex-
aminations. I. Diaphragmatic Excursions and
the Postoperative Venous Flow 382
- POMPE J C. A Case of Fatal Air Embolism After
an Intravenous Injection in the Region of the
Elbow 383
- DELAURE J, JUSTIN BESANCON L. and BARDIN P.
An Anatomical and Physopathological Study of
a Pulmonary Infarct of Embolic Origin 383
- Antiseptic Surgery Treatment of Wounds and In-
fections
- ELIOT E, JR and EASTON E R. Gas Gangrene 383
- MELENEY F L. Zinc Peroxide in the Treatment of
Micro-Aerophilic and Anaerobic Infections
With Special Reference to a Group of Chronic
Ulcerative Burrowing Non Gangrenous Les-
ions of the Abdominal Wall Apparently Due to
a Micro Aerophilic Hemolytic Streptococcus 384
- Anesthesia
- DASSEN R. Pyramidal Syndrome Following Spinal
Anesthesia 386
- PHYSICO-CHEMICAL METHODS IN SURGERY**
- Roentgenology**
- NELSON P A, and HIRSCH E F. Roentgen Radia-
tion Necrosis of the Larynx and Other Structures
of the Neck 385
- KORNBLUM K. The Responsibility of the Roent-
genologist in the Detection of Intracranial
Tumors 386
- DYKE C G, ELSBERG C A and DAVIDOFF L M.
Enlargement of the Defect in the Air Shadow
Normally Produced by the Choroid Plexus 387
- ZANETTI S. The Value of Roentgen Examination
in the Surgical Treatment of Pulmonary Tuber-
culosis 389
- KADRINKA S. Roentgenological Observations of the
Automatism of the Formation of Folds of the
Mucous Membrane in the Digestive Tract 388
- KIRKLIN B R. Some Phases of the Roentgeno-
logical Diagnosis of Gastric Cancer 389
- MOORE C. Cholecystographic Diagnosis of Papu-
lomas and Tumors of the Gall Bladder 389
- ZOCCHI S and ROBECCO E. A Roentgenological
Study of the Topographic and Functional
Changes in the Esophagus and Stomach During
the Late Stages of Pregnancy 389
- JANSSON G. Roentgen Diagnosis of Papilloma of
the Kidney Pelvis 386
- FRIMANN DAHL, J. Postoperative Roentgen Ex-
aminations. I. Diaphragmatic Excursions and
the Postoperative Venous Flow 387

SURGICAL TECHNIQUE

- Operative Surgery and Technique Postoperative
Treatment
- FRIEDRICH H. Operative Risk in Hemophilia 387

Radium

- QUICK D. Radium in the Treatment of Metastatic
Epidermoid Carcinoma of the Cervical Lymph
Nodes 387

SCHREINER, B F Successful Irradiation Treatment of Eight Cases of Inoperable Carcinoma of the Rectum.	344	McMULLIN, J J. A Amebiasis and Its Surgical Complications	389
SCHREINER, B F, REINHARD, M C, and WEHR, W. H Telecurietherapy	387	MARTIN, H. E, and STEWART, F W. Spindle-Cell Epidermoid Carcinoma	389
COLE, H N, and DRIVER, J R Radium Dosage and Technique in Carcinoma of the Skin, with Special Reference to Interstitial Irradiation with Platinum-Iridium Needles	387	HINTZE, A Dispelling Pessimism in the Treatment of Cancer	390
		MAISIN, J, and POURBAIX, Y. Growth-Promoting and Growth-Inhibiting Substances Extracted from Normal Organs An Experimental Study of Diet in Tar Cancer	391

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

SHAMBAUGH, P. Tar Cancer of the Lip Occurring in Fishermen	319
--	-----

Ductless Glands

BAUER, W : The Parathyroid Glands in Health and Disease	391
---	-----

In other cases it is so situated and so delimited as to render its complete radical extirpation possible. Penfield says further "Physiological instability of the cerebral blood vessels seems to be the abnormal condition which is common to all cases of epilepsy. The proof of this may be new but the supposition is old even antedating Hughlings Jackson who said in 1870. It is, I speculate, through the arteries that sequence of movements is developed whether these movements be spasms passing up the arm and down the leg or whether they be orderly sequences of movements in health."

Russell (23) in a careful analysis of 200 cases of head injury found that 3.5 per cent of the patients suffering from postconcussion disturbances developed epilepsy after an interval of from six to eighteen months following the injury. He did not indicate the type of head injury which was prone to develop epilepsy.

Levinger (12), in a study of 229 cases of brain injury found that true traumatic epilepsy occurred in 30 (13 per cent). All of the epileptic patients suffered severe injury to the brain and 50 per cent had extensive fractures of the parietal and temporal bones of the skull.

Glaser and Shafer (8) analyzed the records of 255 cases of head injury which had been followed for from one to five years after the accident. They found that convulsions occurred in 6 per cent of the cases. They included in the epileptic group those of focal epilepsy, true epilepsy, and hysterical epilepsy. In five of their six cases the epilepsy followed a depressed skull fracture. In the cases in which it developed within a period of three months, brain abscess was the etiological factor.

Rosanoff, Handy, and Rosanoff (22) state "Evidence has accumulated in the past fifteen or twenty years to the effect that epilepsy traditionally considered a neurosis, functional in nature and idiopathic in etiology, is rather a decerebration syndrome definitely organic. Apparently, the epileptic syndrome in traumatic cases is determined not by the severity or extent of the original injury to the brain but it must be inferred, by its localization or by the inflammatory reaction with progressive tissue change which follows it or by both. While they have stressed trauma to the head sustained at the time of birth or after birth as the most important cause underlying epilepsy, they said little concerning other factors because most of their material consisted of cases exemplifying a traumatic etiology."

Wortis and McCulloch (36) have contributed some important experimental observations upon the effects of head injury in cats and the suscep-

tibility of these animals to a convulsive state. They found that aseptic brain laceration blood in the subarachnoid spaces, and skull fracture have the following sequelae:

- 1 Increased sensitiveness to a standardized convulsant (camphor monobromide). Some of the animals remained hypersensitive to this drug for several months whereas others returned to normal health within a few weeks.

- 2 Meningocerebral adhesions and a contracting cerebral cicatrix. These conditions not only increase the sensitiveness to experimental convulsions, but also produce distortion of the cerebral ventricular system.

Mazzini (13) reports 3 cases of post traumatic epilepsy in which a plastic exudate with adhesions and abscess of the brain resulted in jacksonian epilepsy.

Hengstler (9) sounds a very important warning. He states that in cases of epilepsy following head injury as with insanity, the physician must use extreme caution in arriving at a conclusion since in these cases also the patient is prone to furnish information which is not fact. In the first place very few head injuries result in epilepsy. If the history of the individual and his family is obtained with great care it will prove in the greater percentage of cases especially those in which there has been no structural brain injury or skull fracture that if epilepsy really exists, it was present before the injury.

Fincher (7) states that the two most common causes of jacksonian epilepsy are neoplasms and the pathological changes in the cortex resulting from trauma.

None of the articles available for this review discusses in detail the type of cranial trauma most likely to result in epileptic manifestations. The literature following the World War indicated beyond all reasonable doubt that penetrating wounds whether caused by foreign bodies or depressed fragments of bone result in a cortical meningeal cicatrix. Such a cicatrix may produce epileptic manifestations months or years later. Certainly this information may well be carried over into civil life and its significance applied to traumatic head injuries. With the newer diagnostic methods developed during the past few years such localized cerebral injuries can be demonstrated conclusively.

SYMPTOMATOLOGY AND DIAGNOSIS

Penfield and Gage (19) have made a most important contribution on the cerebral localization of epileptic manifestations. They analyzed the pattern of the seizures in 75 cases of focal epilepsy.

and have attempted to reproduce these characteristic attacks by direct stimulation of the diseased cortex of conscious patients on the operating table

They have found that the most frequent lateralizing sign is deviation of the head and eyes to the side opposite the hemisphere involved. Seizures which have their origin in the frontal lobe are usually characterized by loss of consciousness (without aura) and turning of the eyes, head, and body to the opposite side, followed by a nearly simultaneous convulsion of the opposite extremities, falling, and generalization of the attack. In seizures which arise in the precentral or postcentral gyrus consciousness is usually lost late. A "tingling sensation" may follow a jacksonian "march," just as movement follows in seizures arising in the frontal lobe. Consciousness is apt to be lost late also in seizures arising anywhere behind the central sulcus. Such seizures are, of course, ushered in by auræ. It must be remembered, however, that a major attack may leave retrograde amnesia, so that the aura is forgotten. Under such circumstances, the aura may be remembered only in slight seizures which do not progress to generalization. Seizures originating in the supramarginal gyrus are characterized by a discontinuous twinkling of lights seen in the contralateral field. An aura of pain or of epigastric distress may arise from activity of the postcentral cerebral cortex. Cortical stimulation reproduces such sensory phenomena. The buzzing sounds and the dizziness which are characteristic of unilateral temporal lobe seizures have been reproduced by electrical stimulation, but the more complicated dreamy states and odors have never been reproduced, perhaps because of the limitation of surgical approach.

Cerebral localization of epileptic manifestations is necessary for the interpretation of convulsive seizures and is of obvious importance in cases in which radical therapeutic measures are indicated.

The diagnosis of traumatic epilepsy has been greatly simplified by the advent of air studies. It is generally accepted that encephalography offers more information in these cases than does ventriculography because, in the former, the cerebral subarachnoid spaces as well as the ventricular system are visualized.

Money and Susman (14) have emphasized the value of encephalography in the diagnosis of traumatic focal lesions of the brain.

Penfield (18) states that encephalography is an indispensable aid in the recognition of traumatic brain scars. Such scars exert traction upon the whole brain through the vaso-astral frame-

work, and it becomes evident in the encephalogram that this cicatricial pull produces a migration of adjacent parts of the ventricle toward the lesion.

TREATMENT

The operative treatment of epilepsy has been the perennial vogue in various clinics for the past forty years. Simple decompression operations, implantation of foreign bodies upon the surface of the brain, various types of cervical sympathectomy, drainage of arachnoidal lakes of fluid, surgical alterations of venous drainage, all of these and many more, such as colectomy, have been employed from time to time with the hope of bringing relief to the epileptic patient. Today, it is generally conceded that there is no approved or accepted surgical procedure for cases of idiopathic epilepsy. On the other hand, the treatment of traumatic epilepsy with localized cortical scars is not only well standardized but yields quite satisfactory results.

All recent authors pay tribute to the pioneer work of Foerster and his pupils in the struggle against traumatic epilepsy. The principles which Foerster has laid down form the basis of all modern studies of this condition.

Vogeler (33) discusses in a condensed article the present status of our knowledge of the surgical treatment of traumatic epilepsy. He concludes that removal of the cortical scar is the most important part of the treatment.

Penfield (18) states: "If the patient's history, the encephalogram, the pattern of the seizures and, perhaps, neurological examination all incriminate the same area of the brain, then electrical exploration is justified. If this exploration is in accordance with the rest of the evidence, complete radical excision of the focal lesion is the rational method of treatment, a treatment which has been justified by its practical results."

Alessandri (1) in summarizing his experience in the treatment of post-traumatic jacksonian epilepsy, says: "The most essential feature is the restoration of the anatomical conditions of the cranium as nearly as possible." He favors closure of any bony defect by transplantation of bone after excision of scars in the dura and cerebral cortex. He favors also the transplantation of muscle tissue into the cavity of the cerebral scar to arrest bleeding.

Schurer-Waldheim (26) discusses the problem of surgical treatment of epilepsy from several angles. He feels that surgical treatment of the idiopathic group of cases is useless. In the symptomatic group, more encouraging results have been obtained. In this group he places all cases

In other cases it is so situated and so delimited as to render its complete radical extirpation possible. Penfield says further 'Physiological instability of the cerebral blood vessels seems to be the abnormal condition which is common to all cases of epilepsy. The proof of this may be new but the supposition is old even antedating Hughlings Jackson who said in 1870 'It is I speculate, through the arteries that sequence of movements is developed whether these movements be spasms passing up the arm and down the leg or whether they be orderly sequences of movements in health'.

Russell (23) in a careful analysis of 200 cases of head injury found that 3.5 per cent of the patients suffering from postconcussion disturbances developed epilepsy after an interval of from six to eighteen months following the injury. He did not indicate the type of head injury which was prone to develop epilepsy.

Levinger (12) in a study of 220 cases of brain injury found that true traumatic epilepsy occurred in 30 (13 per cent). All of the epileptic patients suffered severe injury to the brain and 50 per cent had extensive fractures of the parietal and temporal bones of the skull.

Claser and Shafer (8) analyzed the records of 255 cases of head injury which had been followed for from one to five years after the accident. They found that convulsions occurred in 6 per cent of the cases. They included in the epileptic group those of focal epilepsy, true epilepsy, and hystero-epilepsy. In five of their six cases the epilepsy followed a depressed skull fracture. In the cases in which it developed within a period of three months, brain abscess was the etiological factor.

Rosanoff, Hand, and Rosanoff (22) state 'Evidence has accumulated in the past fifteen or twenty years to the effect that epilepsy, traditionally considered a neurosis, functional in nature and idiopathic in etiology, is rather a decerebration syndrome definitely organic. Apparently the epileptic syndrome in traumatic cases is determined not by the severity or extent of the original injury to the brain but it must be inferred by its localization or by the inflammatory reaction with progressive tissue change which follows it or by both. While they have stressed trauma to the head sustained at the time of birth or after birth as the most important cause underlying epilepsy they said little concerning other factors because most of their material consisted of cases exemplifying a traumatic etiology.

Wortis and McCulloch (36) have contributed some important experimental observations upon the effects of head injury in cats and the suscep-

tibility of these animals to a convulsive state. They found that aseptic brain laceration blood in the subarachnoid spaces, and skull fracture have the following sequelae:

1. Increased sensitiveness to a standardized convulsant (camphor monobromide). Some of the animals remained hypersensitive to this drug for several months whereas others returned to normal health within a few weeks.

2. Meningocerebral adhesions and a contracting cerebral cicatrix. These conditions not only increase the sensitiveness to experimental convulsions but also produce distortion of the cerebral ventricular system.

Mazzini (13) reports 3 cases of post-traumatic epilepsy in which a plastic exudate with adhesions and abscess of the brain resulted in jacksonian epilepsy.

Hengstler (9) sounds a very important warning. He states that in cases of epilepsy following head injury as with insanity the physician must use extreme caution in arriving at a conclusion since, in these cases also, the patient is prone to furnish information which is not fact. In the first place, very few head injuries result in epilepsy. If the history of the individual and his family is obtained with great care it will prove in the greater percentage of cases especially those in which there has been no structural brain injury or skull fracture that if epilepsy really exists, it was present before the injury.

Fincher (7) states that the two most common causes of jacksonian epilepsy are neoplasms and the pathological changes in the cortex resulting from trauma.

None of the articles available for this review discusses in detail the type of cranial trauma most likely to result in epileptic manifestations. The literature following the World War indicated beyond all reasonable doubt that penetrating wounds whether caused by foreign bodies or depressed fragments of bone result in a cortical meningeal cicatrix. Such a cicatrix may produce epileptic manifestations months or years later. Certainly this information may well be carried over into civil life and its significance applied to traumatic head injuries. With the newer diagnostic methods developed during the past few years such localized cerebral injuries can be demonstrated conclusively.

SYMPTOMATOLOGY AND DIAGNOSIS

Penfield and Gage (19) have made a most important contribution on the cerebral localization of epileptic manifestations. They analyzed the pattern of the seizures in 75 cases of focal epilepsy.

- 25 SATTER, L. Cortex- und Subcortexuntersuchungen am Menschen Arch f klin Chir, 1934, 179 300-311
- 26 SCHURER-WALDHEIM, F. Die chirurgische Behandlung der Epilepsie Wien med Wchnschr, 1934, 2. 1180-1182
- 27 SPURLING, R. GLEN. The epileptic problem Kentucky, M J, 1932, 30 584-589
- 28 SWIFT, G. W. Epilepsy Surg, Gynec & Obst, 1932, 54 566-580
- 29 SYMONDS, C. P. The effects of injury upon the brain Lancet, 1932, 1 820-823
- 30 TAYLOR, E. W. Jacksonian attacks and brain tumor New England J Med, 1932, 206 771-776
- 31 TRUMPER, M. Antagonistic biochemical mechanisms in diabetes and epilepsy Arch Neurol & Psychiat, 1931, 26: 1336-1337
- 32 VASCO, R. Sulla epilessia jacksoniana post-traumatica Giorn med Alto Adige, 1931, 3 701-708
- 33 VOGELER K. Traumatische Epilepsie nach Schaedel-schussverletzungen Med Welt, 1934, 439-443
- 34 VOZNESENSKIJ, K. Einige Schwankungen in der Lehre von der jacksonschen Epilepsie Sov. et. Klin., 1933, 29 379-388
- 35 WOPFIS, S. B., and KENNEDY, F. Acute head injury Surg, Gynec. & Obst., 1932, 55 365-370
- 36 WOPFIS, S. B., and McCULLOCH, W. S. Head injuries Arch Surg, 1932 25 529-543

of Jacksonian epilepsy without evidence of cortical scar. The focal point in the brain responsible for the initiation of the attack is determined by neurological study and electrical stimulation of the cortex. This point is then excised. His results in a fairly large series of cases have been encouraging. For the traumatic group with localized cerebral scars he feels that radical excision of the scarred area is the method of choice.

The reported results of the surgical treatment of traumatic epilepsy vary greatly, depending not so much upon the method employed as upon the surgeon carrying out the treatment.

Vornesenskjöld (34) reports the cases of 7 patients operated upon for traumatic Jacksonian epilepsy, only 1 of whom remained free of symptoms for a period of a year and a half. He concludes that the surgery of Jacksonian epilepsy today has only a clinical, empirical foundation without an encouraging outlook. This point of view, however, is held by few as most observers have reported a reasonably high incidence of freedom from seizures over a period of years after radical excision of all of the cortical scar with or without repair of bony defects in the skull (1, 2, 4, 11, 12, 18, 19, 26, 27, 33).

Vasco (32) reported an interesting case of what appeared to be epilepsy resulting from trauma in which operation disclosed a tumor formation in the scarred area, apparently a meningeal fibroblastoma.

While much has been said about the repair of cortical scars in traumatic epilepsy, little has been said about their prevention. In most cases of acute head injury resulting eventually in a localized cortical cicatrix there has been a depressed fracture of the skull with an area of local contusion and laceration to the brain and meninges. It has been a too common practice if any operation is done at all to simply elevate or remove the skull fragments and disregard the devitalized brain tissue. In the process of healing all such tissue is replaced by an astroglial network which often becomes thoroughly fixed to the meninges and tissues of the scalp. Such a scar exerts a pull over a widespread area of the brain. If at the time of the acute injury all devitalized cerebral tissue is clearly removed, the resulting gliosis is reduced to the minimum and the cavity thus created becomes filled with cerebrospinal fluid. The likelihood of an extensive scalp-meningocerebral scar is thus greatly diminished. A thorough debridement of the entire traumatized area at the time of the acute injury would certainly reduce the incidence of traumatic epilepsy to the minimum.

BIBLIOGRAPHY

1. ALESSANDRI R. Epilessia jacksoniana post traumatica: criteri di cura chirurgica razionale. *Emotassi e piombaggio in chirurgia cerebrale*. Ann. ital. di chir. 1932 11 18.
2. ALLRAY M. Oedème cérébral post traumatique avec épilepsie jacksonnienne. *Carphologie génitale. Trepanation décompressive au huitième jour*. *Gaite* 1908. Lull et mém. Soc. nat. de chir. 1933 59 1006-1011.
3. BABUK V. Zur Chirurgie der genuinen Epilepsie. *Sovet Vrazh. Gaz* 1932 21 22.
4. BISTA C. Sulla cura chirurgica dell'epilessia. *Boll. Soc. piemont. Chir.* 1934 4 1115-1127.
5. COBB S. Causes of epilepsy. *Arch. Neurol. & Psychiat.* 1932 1 243-263.
6. DANIELOPOLOU. Sur la pathologie de l'épilepsie et sur son traitement chirurgical. *Presse méd. Par.* 1933 41 170-174.
7. FINCHER E F. Jacksonian epilepsy. *J. South Carolina M. Ass.* 1931 28 57-59.
8. GLASER M A and SHAFER F J. Skull and brain traumas their sequelae. *J. Am. M. Ass.* 1932 98 271-275.
9. HENOSTER W H. The remote effects of head injury. *Minnesota Med.* 1932 15 163-167.
10. HEYMANN E. Langdauernde Epilepsie und Hirngeschwulste. *Med. Klin.* 1932 1 430-432.
11. JENTZER M A. Volet osseux surlevé dans un cas de épilepsie post traumatique. *Bull. et mém. Soc. nat. de chir.* 1934 60 772-773.
12. LEVINGER L. Untersuchungen an 30 durch Unfall Hirnverletzten mit epileptiformen Erscheinungen. *Ein Beitrag zum Problem der traumatischen Epilepsie*. *Arch. f. orthop. Chir.* 1932 31 372-380.
13. MAZOT O F. A propósito de síndrome de mal epileptico a forma jacksoniana en un parálisis general curado por la craneotomía descompresiva temporaria. *Bol. y trab. Soc. de chir. de Buenos Aires* 1934 18 94-99.
14. MONEV R and SLEMAN E. The diagnostic procedure of encephalography with special reference to traumatic focal lesions of the brain. *Australian & New Zealand J. Surg.* 1932 2 47-62.
15. MORSE G de and FISCHER I. Le traitement chirurgical des contractures et des crises jacksonniennes post apoplectiques. *Presse méd. Par.* 1934 1 19-20.
16. MUZZARELLI G. Su di un caso di frattura della base del cranio. *Polichin. Rome* 1932 39 sez. prat. 49-50.
17. NASH C C. The treatment of chronic brain injuries. *Texas State J. M.* 1932 27 662-666.
18. PENFIELD W. Surgery in the treatment of epilepsy. *Surg. Gynec. & Obst.* 1934 58 1041-1043.
19. PENFIELD W and CAGE L. Cerebral localization of epileptic manifestations. *Arch. Neurol. & Psychiat.* 1933 30 709-727.
20. REED J V. Repair of cranial defects. *Am. J. Surg.* 1932 18 85-91.
21. REELEN M. Epilepsia jacksoniana—syndrome parietale—tuberculose. *Folia med.* 1933 14 551-554.
22. ROSANOFF A J, HANCOCK L M, and ROSANOFF F A. The etiology of epilepsy. *Arch. Neurol. & Psychiat.* 1934 31 1165-1193.
23. RUSSELL W R. The after effects of head injury. *Edinburgh M. J.* 1934 41 129-144.
24. SALMON A. Un centre végétatif épileptogène. *Pres. e. méd. Par.* 1932 2 20-21.

7 cases in which puncture was followed by the injection of a solution of bichloride of mercury or the insufflation of iodoform powder, only 2 responded.

The most rational method is extirpation of the cyst, which alone insures radical cure and prevents postoperative suppuration. In cases of superficial cysts, either the transconjunctival or the transcutaneous route of approach is used. In cases of retrobulbar cysts at the base of the orbit, exploration of the orbit becomes necessary. For this, either Kroenlein's operation or Rollet's subaponeurotic orbitotomy may be done. The latter is the more rapid and permits exploration with less danger of injury and disfigurement.

The author performs extirpation of the cyst in the following 6 stages (1) puncture of the cyst and aspiration of the fluid, (2) injection of an equal amount of 1 per cent formol solution which is left in contact for a few minutes, (3) incision of the adventitia for 1 cm. to either side of the needle which has been left *in situ*, (4) removal of the hydatid membrane with forceps, (5) rinsing of the cavity with formol solution and careful exploration of the diverticula with the curette, especially in cases in which the membrane is torn and cases of multivesicular cysts, and, (6) suture if the sac is small or the insertion of a drain if it is large.

This procedure is followed by cure in from ten to thirty days. Occasional suppuration yields readily to irrigation with Dakin's solution. The local reaction disappears in a few days and is never serious unless the cornea is involved, when ulceration and cicatrization may be expected. General reactions have the aspect of anaphylactic shock. However, they subside in from eight to fifteen days and are never fatal.

Hydatid cyst of the orbit is confused most frequently with sarcoma, an error sometimes leading to unnecessary enucleation. Exploratory puncture will reveal the cystic nature of the tumor as well as its hydatid origin. Because of the danger of an anaphylactic reaction, puncture of the tumor should be postponed until after exposure of the tumor. Of the laboratory procedures, the Casoni test gives most reliable results. The actual size of the tumor is always greater than its apparent size. Roentgen examination may be of aid in revealing the condition of the adjoining sinuses, the orbital walls, and the possible presence of a bony perforation. The nasal accessory sinuses should also be examined. In cases in which contact illumination was practiced, the tumor showed up distinctly.

Among the ocular manifestations are changes in the deep membranes and in the curvature of the eyeball, also lesions of the anterior segment evidenced by keratitic disorders which may lead to panophthalmia and total loss of the eye.

The orbital complications include deformity of the orbital walls with enlargement of the orbital cavity and depression of the adjoining sinuses. At the level of the tumor the bone is usually eroded. In rare cases there is perforation into the adjoining sinuses

accompanied by violent headache, vomiting, vertigo, diverse pareses, and coma.

The prognosis as to life is not unfavorable. Only 3 fatal cases have been reported. The prognosis as to vision and preservation of the eyeball is not so good. Frequently vision is diminished or abolished by corneal lesions or changes in the optic nerve. Vision is diminished in 87 per cent of cases, and there is also the possibility of persisting paralysis, ptosis, or total ophthalmoplegia. EDITH SCHANCHE MOORE.

EAR

Salkeld, R.: The Cortical Mastoid Operation. *Brit M J*, 1935, 1: 1160.

Of ninety-one consecutive patients of various ages who were subjected to cortical mastoidectomy, eighty made an uninterrupted recovery. Six were re-admitted for further operation, and five died in the hospital. The majority were in the hospital for three weeks. The average time from operation to final dismissal was ten weeks. At re-examination of the eighty-six surviving patients after six months, seventy-seven were found to have dry ears, soundly healed wounds, and normal hearing; eight, impairment of hearing, and eight, a persistent discharge.

In the operative technique, adequate opening up, careful curettage, and lavage of the aditus are important. In the postoperative treatment after the first five days, firm packing of the depth of the wound for about a week shuts off the middle ear from the operation area and prevents re-infection of the latter.

MANUEL E. LICHTENSTEIN, M.D.

NOSE AND SINUSES

O'Malley, J. F.: Ventilation of the Nose and Accessory Sinuses. *J Laryngol & Otol*, 1935, 50: 389.

The author states that the more or less frequent recurrence of minus pressures without compensation by a positive swing must inevitably exert the same type of mechanical pull as does a cupping glass and lead in time to edema of the soft tissues.

Restoration of the air to atmospheric pressure levels will not counteract these rarefactions if they continue to be repeated as the negative phases are the result of active rapid inspiratory tugs and the former are slow passive movements of restitution only. Given the conditions which favor or cause such pressure disturbances in the active respiratory portions of the nose and sinuses, the causes of the edematous changes which ensue are obviously changes seen here only and not produced by inflammatory or suppurative reactions in any other part of the body.

JAMES C. BRASWELL, M.D.

MOUTH

Shambaugh, P.: Tar Cancer of the Lip in Fishermen. *J Am. M. Ass.*, 1935, 104: 2326.

Statistical studies have demonstrated that fishermen are prone to develop skin cancers. This high

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Wanke R. The Anatomy and Pathology of the Diploic Veins (Zur Anatomie und Pathologie der Diplovenen) 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935

The normal anatomy of the diploic veins was established by the investigations of Breschet (1826) Merkel and Testut. Up to the present time however a systematic and basic survey of the roentgen findings has been lacking. This task has been carried out by the author. Wanke first describes the normal picture of the veins in the different decades of life on the basis of 500 roentgenograms. At about the tenth year the development of the venous canals begins to become visible roentgenologically and between the fifteenth and twentieth years a typical picture in various stages of development can be recognized in almost two-thirds of the cases. From the thirtieth to the fiftieth year the veins can be demonstrated in only about two-fifths of the cases. Later positive findings become still more rare. A relationship to age is therefore apparent.

With these normal findings for comparison 500 roentgenograms made in cases of bone disease intracranial pressure from tumor or hydrocephalus and post-traumatic conditions were examined. In cases of bone disease of various types the venous picture was usually absent. In cases of increased intracranial pressure the frequency of positive findings was not the same as in the normal skull. The venous canals are of practical importance chiefly in fresh traumas and late post-traumatic conditions. Ignorance of the great variability of the diploic veins easily leads to incorrect diagnoses. The author cites illustrative cases. In late cases follow-up examinations often showed marked and diverse development. In such cases the roentgenograms gave the impression of a secondary pathological change. The author presents roentgenograms disclosing diffuse varices of the diploic veins. Such pictures are rare and found only in cases in which clinical symptoms are present at the time the roentgenogram is made. However the review of several hundred cases showed that similar if not exactly the same difficulties in demonstrating the diploic veins were experienced not much more frequently than in average normal cases. Therefore this frequency was not so great as to confer a general pathological significance on the pictures obtained. There were also cases in which the findings were entirely negative in spite of the presence of severe clinical symptoms.

In order to confirm these observations roentgenograms made in 30 cases immediately after the injury were compared with roentgenograms made in the same cases weeks, months, or years later. Although the sources of error in judgment are many as in all such examination the impression received from the cases examined to date was that there is no demonstrable secondary intensification of the first findings. While the number of later examinations has been small it seems justifiable to conclude that roentgen visibility of the diploic veins is not of general pathognomonic significance in post-traumatic conditions. However in the individual case an intensified visibility (for example diffuse varices) may be considered in the diagnosis. According to Testut the diploic veins have only one constant characteristic—unlimited variability.

(R. WANKE) FLORENCE ANNAN CARPENTER

EYE

Morard G. Hydatid Cyst of the Orbit (Le kyste hydatidique de l'orbite) *Rec. de chir. Par.* 1932 54 378

The author reviews 24 cases of hydatid cyst of the orbit collected from the literature.

The incidence of such cysts in relation to other ocular affections varies geographically. In Europe it is 1 per 1,000 while in Argentina it is 1 per 474. The cysts occur most frequently between the ages of ten and thirty years but have been found as early as the second year and as late as the seventieth year. They occur about twice as often in males as in females and in the right and left orbit with equal frequency. Only unilateral cases have been reported but there may be local or distant multiple cysts.

In the orbit the cyst is found most frequently in the upper half. The fatty and muscular tissues are especially involved. The walls of the cyst may be extremely thin or so hard and thick as to suggest a fibrosarcoma. The capsule is so intimately connected with the surrounding tissues that decortication is almost impossible. The content of the cyst are usually a watery fluid but in many cases changes in color and consistency suggest transformation. Most cases are aseptic suppuration; usually the result of exploratory puncture. Contrary to accepted theories univesicular cysts, sterile cysts, acrophalocysts or fertile cysts containing hooklets and daughter cysts may be found. In 3 cases there were multiple ocular cysts.

The treatment is purely surgical. Simple puncture was successful in 7 of 18 cases but usually fails. Of

7 cases in which puncture was followed by the injection of a solution of bichloride of mercury or the insufflation of iodoform powder, only 2 responded.

The most rational method is extirpation of the cyst, which alone insures radical cure and prevents postoperative suppuration. In cases of superficial cysts, either the transconjunctival or the transcutaneous route of approach is used. In cases of retrobulbar cysts at the base of the orbit, exploration of the orbit becomes necessary. For this, either Kroenlein's operation or Rollet's subaponeurotic orbitotomy may be done. The latter is the more rapid and permits exploration with less danger of injury and disfigurement.

The author performs extirpation of the cyst in the following 6 stages: (1) puncture of the cyst and aspiration of the fluid, (2) injection of an equal amount of 1 per cent formal solution which is left in contact for a few minutes, (3) incision of the adventitia for 1 cm. to either side of the needle which has been left *in situ*, (4) removal of the hydatid membrane with forceps, (5) rinsing of the cavity with formal solution and careful exploration of the diverticula with the curette, especially in cases in which the membrane is torn and cases of multivesicular cysts, and, (6) suture if the sac is small or the insertion of a drain if it is large.

This procedure is followed by cure in from ten to thirty days. Occasional suppuration yields readily to irrigation with Dakin's solution. The local reaction disappears in a few days and is never serious unless the cornea is involved, when ulceration and cicatrization may be expected. General reactions have the aspect of anaphylactic shock. However, they subside in from eight to fifteen days and are never fatal.

Hydatid cyst of the orbit is confused most frequently with sarcoma, an error sometimes leading to unnecessary enucleation. Exploratory puncture will reveal the cystic nature of the tumor as well as its hydatid origin. Because of the danger of an anaphylactic reaction, puncture of the tumor should be postponed until after exposure of the tumor. Of the laboratory procedures, the Casoni test gives most reliable results. The actual size of the tumor is always greater than its apparent size. Roentgen examination may be of aid in revealing the condition of the adjoining sinuses, the orbital walls, and the possible presence of a bony perforation. The nasal accessory sinuses should also be examined. In cases in which contact illumination was practiced, the tumor showed up distinctly.

Among the ocular manifestations are changes in the deep membranes and in the curvature of the eyeball, also lesions of the anterior segment evidenced by keratitic disorders which may lead to panophthalmia and total loss of the eye.

The orbital complications include deformity of the orbital walls with enlargement of the orbital cavity and depression of the adjoining sinuses. At the level of the tumor the bone is usually eroded. In rare cases there is perforation into the adjoining sinuses

accompanied by violent headache, vomiting, vertigo, diverse pareses, and coma.

The prognosis as to life is not unfavorable. Only 3 fatal cases have been reported. The prognosis as to vision and preservation of the eyeball is not so good. Frequently vision is diminished or abolished by corneal lesions or changes in the optic nerve. Vision is diminished in 87 per cent of cases, and there is also the possibility of persisting paralysis, ptosis, or total ophthalmoplegia. EDITH SCHANCHE MOORE

EAR

Salkeld, R.: The Cortical Mastoid Operation. *Brit M J*, 1935, 1: 1160

Of ninety-one consecutive patients of various ages who were subjected to cortical mastoidectomy, eighty made an uninterrupted recovery. Six were re-admitted for further operation, and five died in the hospital. The majority were in the hospital for three weeks. The average time from operation to final dismissal was ten weeks. At re-examination of the eighty-six surviving patients after six months, seventy-seven were found to have dry ears, soundly healed wounds, and normal hearing, eight, impairment of hearing, and eight, a persistent discharge.

In the operative technique, adequate opening up, careful curettage, and lavage of the aditus are important. In the postoperative treatment after the first five days, firm packing of the depth of the wound for about a week shuts off the middle ear from the operation area and prevents re-infection of the latter.

MANUEL E. LICHTENSTEIN, M.D.

NOSE AND SINUSES

O'Malley, J. F.: Ventilation of the Nose and Accessory Sinuses. *J Laryngol & Otol*, 1935, 50: 389.

The author states that the more or less frequent recurrence of minus pressures without compensation by a positive swing must inevitably exert the same type of mechanical pull as does a cupping glass and lead in time to edema of the soft tissues.

Restoration of the air to atmospheric pressure levels will not counteract these rarefactions if they continue to be repeated as the negative phases are the result of active rapid inspiratory tugs and the former are slow passive movements of restitution only. Given the conditions which favor or cause such pressure disturbances in the active respiratory portions of the nose and sinuses, the causes of the edematous changes which ensue are obviously changes seen here only and not produced by inflammatory or suppurative reactions in any other part of the body.

JAMES C. BRASWELL, M.D.

MOUTH

Shambaugh, P.: Tar Cancer of the Lip in Fishermen. *J Am M Ass*, 1935, 104: 2326

Statistical studies have demonstrated that fishermen are prone to develop skin cancers. This high

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Wanke R. The Anatomy and Pathology of the Diploic Veins (*Zur Anatomie und Pathologie der Diplovenen*) 59 Tag d. deutsch Ges. f. Chir., Berlin 1935

The normal anatomy of the diploic veins was established by the investigations of Breschet (1826) Merkel and Testut. Up to the present time however a systematic and basic survey of the roentgen findings has been lacking. This task has been carried out by the author. Wanke first describes the normal picture of the veins in the different decades of life on the basis of 500 roentgenograms. At about the tenth year the development of the venous canals begins to become visible roentgenologically and between the fifteenth and twentieth years a typical picture in various stages of development can be recognized in almost two-thirds of the cases. From the thirtieth to the fiftieth year the veins can be demonstrated in only about two-fifths of the cases. Later positive findings become still more rare. A relationship to age is therefore apparent.

With these normal findings for comparison 500 roentgenograms made in cases of bone disease, intracranial pressure from tumor or hydrocephalus and post-traumatic conditions, were examined. In cases of bone disease of various types the venous picture was usually absent. In cases of increased intracranial pressure the frequency of positive findings was not the same as in the normal skull. The venous canals are of practical importance chiefly in fresh traumas and late post-traumatic conditions. Ignorance of the great variability of the diploic veins easily leads to incorrect diagnoses. The author cites illustrative cases. In late cases follow-up examinations often showed marked and diverse development. In such cases the roentgenograms gave the impression of a secondary pathological change. The author presents roentgenograms disclosing diffuse varices of the diploic veins. Such pictures are rare and found only in cases in which clinical symptoms are present at the time the roentgenogram is made. However the review of several hundred cases showed that similar if not exactly the same difficulties in demonstrating the diploic veins were experienced not much more frequently than in average normal cases. Therefore this frequency was not so great as to confer a general pathological significance on the pictures obtained. There were also cases in which the findings were entirely negative in spite of the presence of severe clinical symptoms.

In order to confirm these observations roentgenograms made in 30 cases immediately after the injury were compared with roentgenograms made in the same cases weeks, months or years later. Although the sources of error in judgment are many as in all such examinations, the impression received from the cases examined to date was that there is no demonstrable secondary intensification of the first findings. While the number of later examinations has been small it seems justifiable to conclude that roentgen visibility of the diploic veins is not of general pathognomonic significance in post-traumatic conditions. However, in the individual case an intensified visibility (for example diffuse varices) may be considered in the diagnosis. According to Testut the diploic veins have only one constant characteristic—unlimited variability.

(R. WANKE) FLORENCE ANNAN CARPENTER

EYE

Morard G. Hydatid Cyst of the Orbit (*Le kyste hydatique de l'orbite*) *Rev. de chir. Par.* 1:35 54 358

The author reviews 24 cases of hydatid cyst of the orbit collected from the literature.

The incidence of such cysts in relation to other ocular affections varies geographically. In Europe it is 1 per 75,000 while in Argentina it is 1 per 4,140. The cysts occur most frequently between the ages of ten and thirty years but have been found as early as the second year and as late as the seventieth year. They occur about twice as often in males as in females and in the right and left orbit with equal frequency. Only unilateral cases have been reported but there may be local or distant multiple cysts.

In the orbit the cyst is found most frequently in the upper half. The fatty and muscular tissues are especially involved. The walls of the cyst may be extremely thin or so hard and thick as to suggest a fibrosarcoma. The capsule is so intimately connected with the surrounding tissues that decortication is almost impossible. The contents of the cyst are usually a watery fluid but in many cases changes in color and consistency suggest transformation. Most cases are aseptic suppuration is usually the result of exploratory puncture. Contrary to accepted theories, univesicular cysts, sterile cysts, acrophalocysts or fertile cysts containing hooklets and daughter cysts may be found in 25 cases there were multivesicular cysts.

The treatment is purely surgical. Simple puncture was successful in 7 of 28 cases but usually fails. Of

a nodule breaks open the diagnosis is not difficult. Occasionally the use of arsenic by dentists causes the formation of ulcers of the tongue which may be confused with cancer. The author emphasizes that it is most important for the dentist to recognize the signs of cancer of the tongue as only by early diagnosis is it possible for the surgeon to achieve a radical cure (GERMAN) JACOB E. KLEIN, M.D.

PHARYNX

Let, H. R.: Pharyngo-Esophageal Diverticulum. Treatment by One-Stage Resection (Diverticules pharyngo-oesophagiens. Traitement par la résection en un temps) *J de chir*, 1935, 45 746

The first operation on a diverticulum of the esophagus was performed in 1830 by Bell who established external fistula. The first extirpation was done 1884 by Nichaus. Subsequently, other methods such as the invagination of Gérard-Bevan, the di-
culopexy of Schmid, and resection in two stages are preferred.

The author is of the opinion that the operation of choice is one-stage resection. He believes that this procedure is indicated in all cases in which surgery is indicated, that is, cases in which the diverticulum has caused such serious functional disturbance as to affect the general health. It is contra-indicated in poor general condition, malignant degeneration, peridiverticulitis which has brought about such late adhesions to neighboring organs that resection is impossible. Such adhesions can be diagnosed by roentgen examination.

The steps of the operation are described and are illustrated by illustrations. The diverticulum is cleansed and the patient put in the position for ligation of the diverticulum. The anesthesia may be local or general. The incision is made along the anterior border of the sternocleidomastoid muscle on the side of the diverticulum as shown by roentgen examination. The depth of the incision depends upon the size of the diverticulum. The mouth of the diverticulum is at the lower border of the cricoid cartilage. The incisions pass between the vessels and nerves of the neck which are pushed back, and the trachea and esophagus, which are pushed forward. This method of section of the omohyoid muscle and some of the inferior thyroid artery. The esophagus at the bottom of the field covered with its visceral sheath.

The diverticulum is generally found to be smaller than it appeared to be in the roentgenograms. It is generally flattened against the wall of the esophagus and is sometimes difficult to bring out. The visceral sheath is

and the diverticulum freed of the cellular connective tissue which surrounds it. Before the diverticulum is sectioned the field of operation is propped with compresses. The pedicle is sectioned between two clamps, and the line of incision dried, and sutured in two layers. The first layer is sutured while the clamp closing the esophagus is in place. The suture takes in all the tunics of

the pedicle including the mucous membrane. It is of fine catgut. The second layer buries the first. The clamp is then removed and a series of interrupted sutures of linen are applied to the connective tissue-elastic tunic of the pedicle of the diverticulum. The compresses are then removed and the superficial layers of the tissues of the neck sutured after the establishment of drainage.

The patient is given sweetened water for forty-eight hours, boiled milk and sterile water until the fifth day, semiliquid food until the fourteenth day, and then an ordinary diet.

The authors have obtained a complete cure with this method in 90 per cent of their cases. They believe that no other procedure gives as good late results as one-stage resection.

AUDREY GOSS MORGAN, M.D.

NECK

Ochsner, A., Gage, M., and DeBaKey, M.: Scalenus Anticus (Naffziger) Syndrome. *Ann J Surg*, 1935, 28 669

The scalenus anticus syndrome is a clinical entity, the manifestations of which are identical with those of cervical rib. The authors' interest in this condition was stimulated by the observation of a case in which no cervical rib could be demonstrated, but a typical cervical rib syndrome was present. The nature of the condition was suspected only after an informal discussion with Naffziger, who related the histories of two similar cases in which complete relief was given by sectioning of the scalenus anticus muscle, a procedure advocated by Adson and Coffey in 1927 for the relief of cervical rib symptoms. Naffziger believed that the symptoms in his cases were caused by pressure on the brachial plexus and the subclavian artery by the scalenus anticus muscle, as Adson and Coffey had previously concluded that the symptoms in cases with cervical rib were due to compression of the subclavian structures in the angle between the scalenus anticus muscle and the cervical rib.

Two widely cited theories concerning the symptoms of cervical rib, which are based on anatomical dissection, are those advanced by Todd and Jones. According to Todd, compression of the subclavian structures results from abnormal development of the shoulder girdle. Normally, during intra-uterine and pre-adolescent development, the acromial end of the clavicle and the shoulder descend because of the weight of the upper extremity, and the sternal end of the clavicle descends because of contraction of the rectus abdominis muscle exerted through the sternum. No symptoms occur unless there is a greater descent of the shoulder or an arrest of the descent of the sternum and the anterior ends of the ribs. Either one or both of these abnormalities will result in compression of the subclavian structures because of stretching of the brachial plexus and the subclavian vessels over a fixed cervical or first dorsal rib. According to Jones, cervical rib symptoms are due to an abnormal development of the brachial plexus. In

occupational incidence has been generally attributed to exposure to the sun. Scant consideration has been given to the possibility that contact with tar might be a contributing factor.

Tar is employed extensively in the fishing industry, being used on the nets to prevent rotting. It comes smeared on the hands and arms of the fishermen, particularly in hot weather when the tar is soft, and then carried by the hands to the face. Moreover, it is a common practice of fishermen to hold in the mouth the large wooden shuttle-like needle used in the mending of nets.

Although pine tar is used to some extent on fishing nets, by far the great majority of tarred nets are treated with coal tar.

It is interesting that the fishermen themselves appreciate the difference between coal tar and pine tar. The latter they recognize as healing and frequently apply it to minor abrasions and hemorrhoids. Coal tar they find especially troublesome in hot weather, when it causes an intense burning of the skin.

In the handling and repairing of tarred nets fishermen in the Massachusetts region are exposed to the most strongly carcinogenic type of tar, namely, horizontal retort gas works tar.

The author reports eight cases of cancer of the lip in fishermen in which exposure to tar appeared to be an important causative factor.

JOSEPH K. NARAT, M.D.

Meltzer, H. *The Diagnosis and Differential Diagnosis of Cancer of the Tongue* (Die Diagnose und Differentialdiagnose des Zungenkrebses). *Monatsschrift für Krebsheilkunde*, 1935, 3, 97.

It is generally agreed that in cancer of the tongue surgical removal of the cancer and all involved glands is the procedure offering the most hope for permanent cure. Radium and roentgen irradiation may relieve the pain but do not cure. Irradiation is of most value as postoperative treatment. A prerequisite for the success of operation is early diagnosis. The fact that the incidence of permanent recovery after radical operation is only 15 per cent shows that 85 per cent of persons with cancer of the tongue come too late for operation. The entire problem of cancer of the tongue is the problem of early diagnosis; the problem of treatment has been solved.

Most frequently cancer of the tongue appears in one of two forms which in the beginning are easily differentiated clinically: (1) a carcinomatous ulcer extending superficially and (2) the so-called glandular cancer which develops from the tissues under the mucosa.

To prevent misunderstanding it should be emphasized that all cancers of the tongue are typical squamous-cell cancers with numerous areas of cornification.

In both clinical forms the first end stage is a crater-like, more or less shallow or deep ulcer. This is the latest stage at which the tumor can be removed. It is followed by infiltration which pro-

gresses rapidly because of the richness of lymphatics in the region of the tongue. In the early stage the clinical manifestations are easily disregarded and often are discovered only accidentally because as a rule there is no pain. When the infiltrating process begins it causes excruciating pain, difficulty in speech, dysphagia, severe neuralgia, and a putrid odor from the mouth. The patient soon becomes exhausted and dies of inanition. The regional lymph glands become involved so early that sometimes the patient notices their enlargement before he is aware of the tongue lesion. Four lymph gland regions are particularly involved and of prognostic importance: (1) the submaxillary, (2) the sublingual, (3) the deep cervical (on the internal jugular vein), and (4) the supraclavicular. The submental lymph nodes play only a minor rôle in the spread of the condition. It is important to bear in mind the fact that the lymphatics on both sides of the tongue are very closely related to each other, being interwoven. Therefore the glands on both sides may be involved even when the lesion is on only one side.

Cancer of the tongue is extremely rare before the thirtieth year of age and occurs much more frequently in men than in women. The author emphasizes the great importance in its development of leukoplakia of the tongue and the chronic decubital ulcers so familiar to the dentist which often occur in smokers as the result of epithelial thickening due to leukoplakia. That the excessive use of strong alcoholic beverages is a cause of cancer of the tongue has not been proved. A high percentage of persons with cancer of the tongue give a history of syphilis. Fifty per cent of all cancers in betel nut chewers involve the tongue and mouth.

Biopsy with the electric knife is decisive in the diagnosis. The omission of histological study is associated with greater danger than biopsy. Negative findings in the examination of a lymph gland are not conclusive.

In discussing the differential diagnosis the author states that spindle cell sarcoma and lymphosarcoma are located more on the dorsum of the tongue, rarely disintegrate and metastasize early and often to the lungs. Benign tumors seldom cause difficulty in the differential diagnosis. More apt to be confused with cancer of the tongue are the so-called struma of the tongue and the lingual tonsil. The greatest difficulty in the differential diagnosis is caused by syphilis, tuberculosis, and actinomycosis. The primary lesion of syphilis is readily recognized but recognition of the gumma is more difficult. In contrast to carcinoma the latter is frequently multiple, seldom causes enlargement of the neighboring lymph glands, and is never accompanied by carache. The diagnosis is confirmed by biopsy and sometimes by anti-syphilitic treatment. Tuberculous ulcers are not rare in open tuberculosis. In contrast to carcinoma they are extremely sensitive to the touch. The lymph gland enlargements due to tuberculosis are soft and only slightly painful. Actinomycosis occurs usually on the anterior part of the tongue. When

tissue was found. Following extirpation of the bridge and of the adjacent ends of the muscle the patient was permanently relieved.

Pavlovsky, A. J., and Pavlovsky, A.: *Amygdaloid Cysts of the Neck* (*Quistes amigdaloides del cuello*). *Bol. y trab. Soc. de ciruj. de Buenos Aires*, 1935, 19, 313.

This article is based on five cases of amygdaloid cysts of the neck which the author treated surgically. These formations belong to the branchiomas and the subgroup pharyngeal cysts. Their diagnostic characteristics are their localization and their structure. Their localization is in the superior carotid region between the angle of the jaw and the anterior border of the sternocleidomastoid. In structure they consist of a single cavity lined with stratified epithelium over a layer of lymphoid tissue containing germinal centers and a connective tissue capsule. They have thus the structure of the tonsils and correspond to inclusions of pharyngeal tissue in the second branchial cleft. They must be differentiated from cystolymphadenomas which are true polycystic glandular tumors sometimes containing lymphoid tissue but never malpighian follicles.

The authors present a clinical analysis of their cases and discuss the methods of examination, differential diagnosis, and operative technique. They emphasize particularly the importance of diagnostic puncture, cytological examination of the fluid, and roentgenographic study with the injection of lipiodol. The characteristic cells found in the fluid are large round epithelial cells with abundant vacuolated or granular basophilic cytoplasm and a small compact central nucleus.

The author's five cases are reported in detail. The article contains photographs and roentgenograms and is followed by a bibliography.

M. E. MORSE, M.D.

Dionisi, H.: *Tumor of the Carotid Body* (*Tumor del corpúsculo carotideo*). *Bol. y trab. Soc. de ciruj. de Buenos Aires*, 1935, 19, 124.

The author briefly reviews the article on tumors of the carotid body published by Bevan and McCarthy in 1929 (*SURGERY, GYNECOLOGY & OBSTETRICS*, 1929, 49, 764) which gives a résumé of 148 cases of this form of tumor, in 9 of which the neoplasm was discovered at autopsy. In a review of the literature since 1929 he found the reports of about 200 cases.

To these he adds a case of his own, that of a man twenty-five years of age. The patient gave no family or personal history of importance. About a year before he consulted Dionisi he had several carious teeth extracted. Soon afterward a painless tumor appeared in the carotid region and grew progressively larger. Treatment with calcium, tonics, and ultraviolet rays had no effect. At the time of his admission to the hospital he presented a tumor the size of a hen's egg on the left side of the neck in Farabeuf's triangle, which extended from

the angle of the jaw to a line passing through the lower part of the thyroid cartilage. The anterior border of the neoplasm extended a finger's breadth beyond the anterior border of the sternomastoid muscle and its posterior border lay beneath that muscle. The tumor was hard, uniform in consistency, and movable laterally but not up and down. It showed no pulsation or expansion. More superficially and in front of the anterior border of the sternocleidomastoid there was a movable tumor the size of a large almond, apparently an enlarged lymph gland.

A diagnosis of branchial tumor or tumor of the carotid body was made and operation performed under novocain anesthesia of the cervical plexus. An arched incision was made 15 cm. in front of the sternocleidomastoid muscle, the external jugular vein sectioned between 2 ligatures, the enlarged lymphatic gland resected, and the tumor exposed. The neoplasm sat astride the carotid bifurcation, both carotids passing through it. After section of the external carotid and superior thyroid arteries between 2 ligatures the tumor was extirpated. Drainage was established with a rubber tube. The superficial aponeurosis was closed with interrupted sutures of catgut and the skin with interrupted sutures of linen. Histological examination showed the tumor to be a perithelioma of the carotid body.

The patient did well for the first twenty-four hours, but at the end of that time hemorrhage suddenly began from the wound. When the wound was opened it was found that the ligature had slipped from the lower end of the external carotid. The common carotid was ligated and a blood transfusion and heart tonics were given. Hemiplegia soon developed and after several hours was followed by aphasia. The patient died forty-eight hours after the operation.

By some, operation is believed to be contraindicated in these cases because of the danger of hemiplegia from ligation of the carotid. However, as malignant degeneration sometimes takes place, the author regards it as advisable to operate as early as possible in spite of that risk. He believes that the danger of complications is reduced by ligating the common carotid slowly and gradually, pulling the ligature a little tighter each day for four or five days or more according to the patient's condition.

In the discussion of this report, PRINI briefly described 2 cases of tumor of the carotid body which he had operated on and in which the diagnosis was made before the operation.

AUDREY GOSS MORGAN, M.D.

Quick, D.: *Radium in the Treatment of Metastatic Epidermoid Carcinoma of the Cervical Lymph Nodes*. *Am. J. Roentgenol.*, 1935, 33, 677.

The author discusses the treatment of metastatic cancer in the cervical lymph nodes without consideration of the primary growth. In all of his cases of cancer of the upper mucous membrane tract preliminary

cases in which the brachial plexus originates principally from the cervical segment of the spinal cord no symptoms occur whereas in those in which a considerable portion of the lower end of the brachial plexus is derived from the upper thoracic segments of the cord symptoms are apt to result from compression and angulation of these nerves over the first thoracic or cervical ribs. Adson and Coffey ascribe the symptoms in cases with cervical rib to compression of the subclavian structures in the angle between the scalenus anticus muscle and the ribs and advocate division of the scalenus anticus muscle as the treatment of choice.

The foregoing theories have been advanced to explain the development of symptoms in patients with cervical rib but undoubtedly in many cases they explain also the typical cervical rib syndrome occurring in patients without a cervical rib. The authors believe that irritation or stimulation of the brachial plexus some of the fibers of which supply the scaleni muscles, is produced by pressure of the first rib. This causes spasm and shortening of the scalenus anticus muscle resulting in elevation of the first rib and abnormal elevation of the first dorsal rib in turn causes greater irritation and stimulation of the brachial plexus. A vicious circle is thus established. This theory is based upon the finding in all cases of an abnormally well developed spastic and stiffened scalenus anticus muscle and upon the sudden and marked descent of the first rib following division of the muscle. Because of the importance of the scalenus anticus muscle as an active exciting factor in the elevation of the first rib because of the pressure it exerts on the subclavian structures and because sectioning of this muscle relieves the symptoms, the authors believe that the condition should be called the "scalenus anticus syndrome." The symptoms of cervical rib and the scalenus anticus syndrome are the result of compression of the brachial plexus and the subclavian arteries. The compression may be due to stretching of these structures by an abnormally low position of the shoulder, high fixation of the sternum and rib, low origin of the brachial plexus or spasm of the scaleni muscles resulting from brachial plexus irritation. The first three conditions are predisposing factors and the last condition is an exciting factor.

The symptoms and signs of the scalenus anticus syndrome consist of two main groups: the nervous and the vascular which are due respectively to involvement of the brachial plexus and involvement of the subclavian artery. The nervous manifestations are by far the more consistent and prominent. Pain is the principal symptom and is usually referred to the shoulder to the supraclavicular region down the arm to ulnar and flexor surfaces of the forearm and hand, and frequently to the side of the neck and ear. It may vary from an uncomfortable tingling numb sensation to severe lancinating pain. There is almost invariably a marked supraclavicular tenderness on pressure over the scalenus anticus muscle. While the nervous symptoms are due largely to

pressure on the inferior trunk of the brachial plexus, which explains the pain on the ulnar side of the fore arm and hand, more extensive involvement of the brachial plexus may result.

Vascular manifestations consist of diminution of the pulse volume on the affected side, a decrease of the surface temperature, numbness, coldness and formation. The authors have found that the diminution in pulse volume as determined by oscillometry with the Tyco's recording sphygmomanometer is the most definite indication of the early vascular changes. Characteristically, the alteration of the oscillometric index as determined by oscillometry consists of a general decrease in the oscillations particularly at the high blood pressure level.

The condition should be suspected in any patient presenting a characteristic cervical rib syndrome in whom a cervical rib cannot be demonstrated roentgenologically. Conditions other than cervical rib with which it is likely to be confused are (1) subacromial bursitis, (2) rupture of the supraspinatus tendon, (3) cervicodorsal sympathalgia, (4) Raynaud's disease and (5) brachial neuritis. Cervicodorsal sympathalgia must be differentiated from the scalenus anticus syndrome because of the nervous and vascular manifestations which are similar in both. However, it is easily eliminated by the complete relief of symptoms following novocain block of the cervicodorsal sympathetic ganglia. Careful oscillometric examinations at both arms and fore arms before and after sympathetic block are of great diagnostic importance in cases of scalenus anticus syndrome. The diagnostic vascular changes consisting of diminution and at times complete absence of the radial pulse can be produced by rotating the head toward the affected side and extending the chin. Also of great diagnostic importance is the persistent localized point of tenderness over the scalenus anticus muscle in the supraclavicular space with radiation of the pain into the arm.

Because of the prompt and complete relief of pain following operation, the authors prefer surgery to conservative treatment. They report six cases in four of which operation was followed by complete relief of the symptoms. Operation has been advised in the remaining two cases but as yet has not been performed. The authors attribute the beneficial effect of operation in cases of the scalenus anticus syndrome to the break in the vicious circle which allows the first rib to assume a lower position thus relieving the pressure on the subclavian artery and the brachial plexus. They describe their operative technique in detail. They regard it as desirable not only to divide but also to resect the distal portion of the scalenus muscle because of the possibility of fibrous bridging between the two ends of the divided muscle resulting from organization of exudate, i.e., blood and serum. They came to this conclusion because in one of their cases the symptoms recurred after six weeks of complete relief and at a second operation a bridging of the muscle defect by fibrous

tissue was found. Following extirpation of the bridge and of the adjacent ends of the muscle the patient was permanently relieved.

Pavlovsky, A. J., and Pavlovsky, A.. Amygdaloid Cysts of the Neck (*Quistes amigdaloides del cuello*) *Bol y trab Soc de ciruj de Buenos Aires*, 1935, 19 313

This article is based on five cases of amygdaloid cysts of the neck which the author treated surgically. These formations belong to the branchiomias and the subgroup pharyngeal cysts. Their diagnostic characteristics are their localization and their structure. Their localization is in the superior carotid region between the angle of the jaw and the anterior border of the sternocleidomastoid. In structure they consist of a single cavity lined with stratified epithelium over a layer of lymphoid tissue containing germinal centers and a connective tissue capsule. They have thus the structure of the tonsils and correspond to inclusions of pharyngeal tissue in the second branchial cleft. They must be differentiated from cystolymphadenomas which are true polycystic glandular tumors sometimes containing lymphoid tissue but never malpighian follicles.

The authors present a clinical analysis of their cases and discuss the methods of examination, differential diagnosis, and operative technique. They emphasize particularly the importance of diagnostic puncture, cytological examination of the fluid, and roentgenographic study with the injection of lipiodol. The characteristic cells found in the fluid are large round epithelial cells with abundant vacuolated or granular basophilic cytoplasm and a small compact central nucleus.

The author's five cases are reported in detail. The article contains photographs and roentgenograms and is followed by a bibliography.

M E MORSE, M D

Dionisi, H : Tumor of the Carotid Body (Tumor del corpusculo carotideo) *Bol y trab Soc de ciruj de Buenos Aires*, 1935, 19 124

The author briefly reviews the article on tumors of the carotid body published by Bevan and McCarthy in 1929 (*SURGERY, GYNECOLOGY & OBSTETRICS*, 1929, 49 764) which gives a résumé of 148 cases of this form of tumor, in 9 of which the neoplasm was discovered at autopsy. In a review of the literature since 1929 he found the reports of about 200 cases.

To these he adds a case of his own, that of a man twenty-five years of age. The patient gave no family or personal history of importance. About a year before he consulted Dionisi he had several carious teeth extracted. Soon afterward a painless tumor appeared in the carotid region and grew progressively larger. Treatment with calcium, tonics, and ultraviolet rays had no effect. At the time of his admission to the hospital he presented a tumor the size of a hen's egg on the left side of the neck in Farabeuf's triangle, which extended from

the angle of the jaw to a line passing through the lower part of the thyroid cartilage. The anterior border of the neoplasm extended a finger's breadth beyond the anterior border of the sternomastoid muscle and its posterior border lay beneath that muscle. The tumor was hard, uniform in consistency, and movable laterally but not up and down. It showed no pulsation or expansion. More superficially and in front of the anterior border of the sternocleidomastoid there was a movable tumor the size of a large almond, apparently an enlarged lymph gland.

A diagnosis of branchial tumor or tumor of the carotid body was made and operation performed under novocain anesthesia of the cervical plexus. An arched incision was made 15 cm in front of the sternocleidomastoid muscle, the external jugular vein sectioned between 2 ligatures, the enlarged lymphatic gland resected, and the tumor exposed. The neoplasm sat astride the carotid bifurcation, both carotids passing through it. After section of the external carotid and superior thyroid arteries between 2 ligatures the tumor was extirpated. Drainage was established with a rubber tube. The superficial aponeurosis was closed with interrupted sutures of catgut and the skin with interrupted sutures of linen. Histological examination showed the tumor to be a parathylioma of the carotid body.

The patient did well for the first twenty-four hours, but at the end of that time hemorrhage suddenly began from the wound. When the wound was opened it was found that the ligature had slipped from the lower end of the external carotid. The common carotid was ligated and a blood transfusion and heart tonics were given. Hemiplegia soon developed and after several hours was followed by aphasia. The patient died forty-eight hours after the operation.

By some, operation is believed to be contraindicated in these cases because of the danger of hemiplegia from ligation of the carotid. However, as malignant degeneration sometimes takes place, the author regards it as advisable to operate as early as possible in spite of that risk. He believes that the danger of complications is reduced by ligating the common carotid slowly and gradually, pulling the ligature a little tighter each day for four or five days or more according to the patient's condition.

In the discussion of this report, PRINI briefly described 2 cases of tumor of the carotid body which he had operated on and in which the diagnosis was made before the operation.

AUDREY GOSS MORGAN, M D

Quick, D : Radium in the Treatment of Metastatic Epidermoid Carcinoma of the Cervical Lymph Nodes *Am J Roentgenol*, 1935, 33 677.

The author discusses the treatment of metastatic cancer in the cervical lymph nodes without consideration of the primary growth. In all of his cases of cancer of the upper mucous membrane tract preliminary

roentgen therapy is given to the extent of an intense erythema on both sides of the neck. The reaction is not carried to the point of superficial destruction of the skin. If nodes are not palpable no further neck treatment is given. In selected cases of fully differentiated cancer complete surgical unilateral dissection of the neck is done. Undifferentiated lesions are treated by roentgen irradiation alone. In cases of advanced involvement only palliative roentgen therapy is given. Under all other circumstances interstitial irradiation of the neck is employed to obtain a cure or prolonged palliation. Preliminary roentgen therapy is important whether nodes are palpable or not. Roentgen therapy is considered preferable to radium therapy chiefly because radium therapy at a distance of from 10 to 15 cm. is impractical. It is possible that the application of radium at shorter skin distances over a period of from two to three weeks may be of value.

Interstitial irradiation is indicated in all cases except in those of extreme Grade 4. Regardless of the histological character of the neoplasm implantation is indicated in all cases with invasion of the node capsule, all cases of bilateral involvement and all recurrent cases. The author prefers radon seed because they do not interfere with operative technique and assist greatly in the securing of primary healing. His second choice, when radon is not available, is element needles and his third choice a series of tubes used in a large rubber drainage tube sutured the full length of the operative wound.

Interstitial irradiation of cervical nodes always requires surgical exposure. For preparation of the skin a 5 per cent solution of picro acid in alcohol is preferred to tincture of iodine. Surgery should be limited to adequate exposure.

The interstitial dosage varies from 3,000 to 10,000 m. hrs. of radon irradiation or its equivalent in element for one side of the neck. The latter dosage represents approximately 10 S.E.D. to a tumor mass from 5 to 6 cm. in diameter. In the present use of gold seeds with a 0.3 mm. gold wall and carrying from 1 to 2 m. there is a tendency to increase the filter and content per implant. The maximum dose consistent with normal tissue tolerance should be applied regardless of the histological findings. Interstitial irradiation is of doubtful value in cases in which control of the growth of the primary tumor is uncertain. The author is less apprehensive than formerly regarding the effect on the blood vessels of close approximation to the radon. Nerves are slightly less tolerant than blood vessels. The sympathetic plexuses of the neck should not be overdosed. There is little danger of injury to the laryngeal cartilages. The presence of scar tissue and the necessity for repeated treatments indicate a reduction of the intensity of the dose. The presence of syphilitic infection is of less importance in the neck than in the mouth.

Active infection contra indicates irradiation by implantation in the cervical region.

A. JAMES LARKIN, M.D.

Harlington C. R. The Biochemical Basis of Thyroid Function. *Lancet* 1935 218 1261.

Acid insoluble thyroxine and acid soluble diiodotyrosine account for all the iodine in the thyroid gland. A great loss of physiological activity is sustained by thyroxine during the process of its separation. This is shown by the fact that desiccated thyroxine given by mouth has several times the activity of a dose of thyroxine no greater than its content of acid soluble iodine. Moreover the activity of any thyroid preparation is proportional to its content of total iodine rather than as the author formerly believed to its content of thyroxine iodine. Hence, Harlington now thinks that the natural active secretion contains both thyroxine and diiodotyrosine. The chemical structure found characteristic of physiological activity is the thyroxine nucleus with halogen atoms at least in the 3,5 positions. Even 3,5,3',5' tetraiodothyronine has some activity.

Harlington reviews the rise of Plummer's theory of dysthyroidism in Graves disease but concludes that the symptoms and therapeutic observations offer little support for the assumption of a qualitative difference between Graves disease and uncomplicated hyperthyroidism. In attempting to explain the beneficial action of iodine in Graves disease he cites Marine's theory of mechanical interference with secretion reaching the lymphatics in the ordinary way. He emphasizes the temporary nature of the beneficial effect of iodine in Graves disease. He says, "The justification of iodine therapy in Graves disease is its value as a pre-operative treatment the attempt to use it for prolonged and unaided medical treatment is not only doomed to failure but means the loss of an opportunity to put the patient into the most favorable condition for operation."

In a theoretical discussion of possible extra-thyroid influences producing Graves disease Harlington says that Marine's results from the treatment of Graves disease with extracts of the suprarenal cortex have not been confirmed. He calls attention to the action of thyrotoxic hormone. He believes that this is unlikely to be a cause of Graves disease under ordinary conditions. He suggests that Collip's antiserum substance is not an antibody but may be an antagonist principle from the suprarenal cortex.

L. A. L. STARR, M.D.

Cuthbertson D. I. and Mackay W. A. The Parathyroid Glands. *Lancet* 1935 213 247.

The authors review the anatomy, embryology, histology, physiology and pathology of the parathyroid glands. Their discussion includes tetania parathyriopriva, the biochemical basis of tetany, chronic hypoparathyroidism, the treatment of hypoparathyroidism, the parathyroid hormone experiment, acute and chronic hyperparathyroidism, vitamin D and parathormone, phosphoric esterase and the parathyroids, the influence of the parathyroids on the metabolism of heavy metals, reactionary hyperplasia of the parathyroids and auton-

omous adenoma, bone lesions, associated lesions due to hypercalcemia, roentgenologically demonstrated conditions associated with hyperparathyroidism, and osteitisfibrosa cystica

Three new cases of generalized osteitis fibrosa cystica are reported

The first was that of a woman fifty-three years of age who was operated upon for the removal of a parathyroid adenoma and died of tetany thirty-three days later

The second was that of a woman forty years old who was operated upon in two stages for the removal of a parathyroid adenoma and died of hypostatic pneumonia a year and four months after the second operation

The third was that of a girl nineteen years of age who was operated upon June 2, 1934 for a parathyroid adenoma and when last examined, April 12, 1935, showed considerable improvement

In discussing the surgical treatment of parathyroid adenomas the authors emphasize the importance of adequate provision against postoperative hypocalcemia and discuss the advisability of limiting the operation at first to subtotal resection

The article is supplemented by several drawings in color, photomicrographs, and roentgenograms

CARL R. STEINKE, M.D.

Nelson, P. A., and Hirsch, E. F.: Roentgen Radiation Necrosis of the Larynx and Other Structures of the Neck. *J Am M Ass*, 1935, 228 1576.

Irradiation injuries of the throat have been recorded by numerous observers. Some of them resulted in death, usually following late manifestations. The lesions for which the irradiation was given included a wide variety of actual or alleged disorders. Carcinoma of the larynx was the most frequent, but many of the conditions were benign. The dosage varied widely from what was considered small doses to admittedly excessive doses.

As the irradiation treatment of carcinoma at present is in a phase in which high-voltage low-resistance doses are given, the authors believe it advisable to warn of the possibility of irradiation injury of the larynx and to call attention to the seriousness of such injury. They report a case in which death followed late irradiation necrosis of the larynx. The clinical and autopsy findings are reported in detail. They believe that the necrosis in this case is to be attributed to the combination of four series of low-voltage roentgen irradiations with one series of 800-kv rays as the dosage of the latter has not been followed by such destructive reactions.

ADOLPH HARTUNG, M.D.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS, CRANIAL NERVES

Dieulafe, R. The Symptomatology of Traumatic Subdural Hematomas (*Démiologie des hématomes sous-duraux traumatiques*) *Rev d'Chir* Par 1935 54 392

The author reviews fifty cases of traumatic subdural hematoma most of which were reported in France since 1921. They included only cases of circumscribed meningeal hemorrhage of the cerebral surface. In a series of forty two in which evacuation of the hematoma was done there were only ten deaths. Dieulafe says that it is quite possible for blood to collect beneath the dura mater without diffusing into the subarachnoid space. In such cases lumbar puncture performed immediately after the accident will evacuate a clear fluid. Injury to the skull of any degree is capable of producing a subdural hematoma.

The free interval has been described as the period intervening between the disappearance of the immediate effects of the injury and the development of disturbances attributable to the presence of the intracranial hematoma. From the cases reviewed by the author it is evident that a short free interval is no indication that the hematoma is extradural and a long interval does not exclude an extradural hematoma.

The incidence of various symptoms such as headache changes in character, coma, aphasia, meningeal symptoms, epileptic attacks, hemiplegia and paralytic motor disturbances is discussed. When headache can be increased by pressure it may be of some localizing value. Frequently changes in the tendon reflexes are the only indication of motor trouble. Unilateral mydriasis has a positive diagnostic value but bilateral mydriasis does not exclude hematoma.

The hematoma may be visible in the roentgenogram because of the presence of iron pigment in the connective tissue membrane. Encephalography will reveal a smooth cerebral surface in contrast to the normal convolutions. Because of the danger of this method of diagnosis it should be used only in cases in which the diagnosis is extremely difficult, i.e. those in which the traumatic origin has been forgotten or is in doubt. In the presence of craniospinal block, encephalography gives no information.

The localization of the hematoma is of great importance in indicating the side on which trephination should be done. Of fourteen cases in which the trauma was definitely limited to one side the hematoma developed on the opposite side in four and on the same side in ten. Aphasia is an important

sign in that it indicates the presence of a lesion in the left hemisphere.

Ventricular pressure and ventriculography will sometimes be of aid in cases in which without it localization would be impossible.

There is not a single constant or pathognomonic symptom of subdural hematoma. The diagnosis can be established only on the basis of a combination of several signs. A progressive exacerbation of symptoms may be suggestive. In cases in which the free interval is very long and the traumatic history vague it is necessary to consider the possibility of a non-traumatic cerebromeningeal involvement.

The combination of trauma and a free interval should arouse suspicion of a hematoma. Often localizing signs appear early only to be obscured by superadded symptoms. All the typical signs may be absent and the onset sudden in which case ventriculography, encephalography or exploratory trephination may reveal the condition. Sometimes both a supradural and a subdural hematoma may be present. After the hematoma has been diagnosed its location must be ascertained. Only temporal trephination on the suspected side will confirm the diagnosis. Perhaps the most reliable sign of localization is the production of pain by pressure on the side of the hematoma.

The author discusses also causes of error in localization.

EDITH SCHANZLE MOORE

Kornblum, H. The Responsibility of the Roentgenologist in the Detection of Intracranial Tumors *Am J Roentgenol* 1935 13 742

While the final diagnosis of intracranial neoplasms is usually made in institution with a well organized neurological service and localization is often dependent upon either encephalography or ventriculography, most patients with brain tumors are first seen by the general practitioner. Since successful treatment frequently depends upon early diagnosis it is essential that the early manifestations be recognized by those who see the patient first. Roentgen examination is often of inestimable value in the detection of such lesions and the general roentgenologist must share the responsibility of recognizing signs suggesting the need for further detailed study by those who have had more experience with cases of intracranial tumors.

The author briefly discusses the technique of roentgenography of the head. He emphasizes the importance of faultless roentgenograms showing the greatest possible detail. Proper positioning is a prime essential. As a rule two views, a direct lateral and an occipital view are sufficient for a general survey. These may be supplemented by additional views as indicated.

The incidence of the various roentgen manifestations of intracranial tumor in a series of 446 verified cases was as follows

	Per cent
1 Deformation of the sella turcica	64.6
2 Convolutional atrophy	8.8
3 Calcification of the tumor	6.5
4 Widening of the sutures	4.6
5 Local bone erosion	2.0
6 Local hyperostosis	1.8
7 Lateral shift of the pineal body	1.8
8 Widened diploic channels	0.2

Each of these signs is discussed at length. Attention is directed to some of the pitfalls in diagnosis and brief reference is made to certain conditions which may simulate brain tumor.

For the correct interpretation of roentgenograms with regard to intracranial tumors, correlation of clinical data with the roentgenological findings is extremely important. In order to evaluate apparent abnormalities in cases of suspected brain tumor the roentgenologist must be familiar with the chronology of the symptoms, the subjective evidence of increased intracranial pressure, focal symptoms, and the positive objective neurological signs.

ADOLPH HARTUNG, M D

Dyke, C. G., Elsberg, C. A., and Davidoff, L. M.: Enlargement of the Defect in the Air Shadow Normally Produced by the Choroid Plexus. *Am J Roentgenol*, 1935, 33, 736

A study of normal cerebral structures by encephalography revealed a defect in the lower wall of the lateral ventricle at the junction of the body with the occipital and temporal horns. This defect, which was frequently seen in the normal encephalogram in both the lateral and the anteroposterior views, was found to be due to the projection of the choroid plexus into this portion of the lateral ventricle. It was present in 41 per cent of a series of ventriculograms and 50 per cent of a series of encephalograms. As measured from the lateral view with the patient in the horizontal position its average dimensions were 10 by 6 mm. The maximum normal was 15 by 15 mm.

In six ventriculograms the measurements were distinctly above normal with an average of 29 by 14 mm. In these cases there arose the question as to whether there was a tumor on or adjacent to the plexus or whether the defect was due to some other cause. Encephalograms made several days later in some of the cases showed the defect to have decreased in size. This led to the conclusion that temporary swelling in the region of the glomus of the choroid plexus may be the result of trauma to this structure or to the neighboring wall during ventricular puncture. In one case death followed, and autopsy revealed a definite hematoma in the atrium which extended into the occipital horn. This corresponded to the side on which ventricular puncture was done. The needle tract was definitely

hemorrhagic. These findings together with the facts that the location of the abnormally large defect corresponded to the glomus of the choroid plexus, that the defect occurred only after ventriculography and only on the side of the ventricular puncture when a single puncture was done, that the disease from which the patient was suffering was unrelated to the defect of the ventricle, and that no defect of large size was observed in 1,400 encephalograms indicated a relationship between the ventricular puncture and the filling defect.

JOHN WILTSIE EPTON, M D.

Constantini, H., and Curtillet, E.: A Case of Bilateral Facial Paralysis. Spino-facial Anastomosis and Resection of the Superior Cervical Ganglion on Both Sides (Paralysie faciale bilatérale. Anastomose spino-faciale et résection du ganglion cervical supérieur des deux cotes). *Lyon chir*, 1935, 32, 291

A man twenty-two years of age suffered a fracture of the skull which resulted in bilateral facial paralysis complicated by paralysis of the external oculomotor on both sides. Without doubt there was a fracture of both petrous bones. His face was mask-like and speech was difficult. Saliva ran from his mouth. Surgery was delayed for six months on the chance of spontaneous improvement, but as no improvement occurred operation was performed. The delay was justifiable as there were no lesions of the cornea.

The two methods generally used in such cases are the old one of anastomosis between the spinal or hypoglossal nerve and the facial nerve, and the more recent one of Leriche, resection of the superior spinal ganglion. In the case reported the authors performed both operations in four stages. They performed the anastomosis first on the left side and then on the right side and then the resection first on the left side and then on the right side. The final result was excellent although the recovery of normal movement and expression of the facial muscles was gradual. As it was impossible to anastomose with the hypoglossal nerve on both sides, the spinal accessory was used on both sides. At first there was a simultaneous contraction of the muscles of the face when the shoulders were lifted, but this ceased after a year.

As neither anastomosis nor resection of the ganglia is complete in itself, the authors recommend a combination of the two operations although they think it may be preferable to perform both operations on one side at the same time, making it a two-stage rather than a four-stage operation. Leriche's operation has the advantage of giving an immediate result and should be performed at once if the eyes are in danger. It may even correct a paralysis of the external oculomotor as it did on one side in the author's case. It corrects the lagophthalmos and generally restores the ability to close the eyes. The anastomosis restores facial expression by restoring the tonus of the facial muscles.

ANDREW GOSS MORGAN, M D

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS, CRANIAL NERVES

Dieulafoy, R. The Symptomatology of Traumatic Subdural Hematomas (*Sémiologie des hématomas sous duraux traumatiques*) *Rev de chir* Par 1935 34 39

The author reviews fifty cases of traumatic subdural hematoma most of which were reported in France since 1921. They included only cases of circumscribed meningeal hemorrhage of the cerebral surface. In a series of forty-two in which evacuation of the hematoma was done there were only ten deaths. Dieulafoy says that it is quite possible for blood to collect beneath the dura mater without diffusing into the subarachnoid space. In such cases lumbar puncture performed immediately after the accident will evacuate a clear fluid. Injury to the skull of any degree is capable of producing a subdural hematoma.

The free interval has been described as the period intervening between the disappearance of the immediate effects of the injury and the development of disturbances attributable to the presence of the intracranial hematoma. From the cases reviewed by the author it is evident that a short free interval is no indication that the hematoma is extradural, and a long interval does not exclude an extradural hematoma.

The incidence of various symptoms such as headache, change in character, coma, aphasia, meningeal symptoms, epileptic attacks, hemiplegia, and paralytic motor disturbances is discussed. When headache can be increased by pressure it may be of some localizing value. Frequently changes in the tendon reflexes are the only indication of motor trouble. Unilateral mydriasis has a positive diagnostic value but bilateral mydriasis does not exclude hematoma.

The hematoma may be visible in the roentgenogram because of the presence of iron pigment in the connective tissue membrane. Encephalography will reveal a smooth cerebral surface in contrast to the normal convolutions. Because of the danger of this method of diagnosis it should be used only in cases in which the diagnosis is extremely difficult, i.e., those in which the traumatic origin has been forgotten or is in doubt. In the presence of craniospinal block, encephalography gives no information.

The localization of the hematoma is of great importance in indicating the side on which trephination should be done. Of fourteen cases in which the trauma was definitely limited to one side the hematoma developed on the opposite side in four and on the same side in ten. Aphasia is an important

sign in that it indicates the presence of a lesion in the left hemisphere.

Ventricular pressure and ventriculography will sometimes be of aid in cases in which, without it, localization would be impossible.

There is not a single constant or pathognomonic symptom of subdural hematoma. The diagnosis can be established only on the basis of a combination of several signs. A progressive exacerbation of symptoms may be suggestive. In cases in which the free interval is very long and the traumatic history vague it is necessary to consider the possibility of a non-traumatic cerebromeningeal involvement.

The combination of trauma and a free interval should arouse suspicion of a hematoma. Often localizing signs appear early, only to be obscured by superadded symptoms. All the typical signs may be absent and the onset sudden in which case ventriculography, encephalography, or exploratory trephination may reveal the condition. Sometimes both a supradural and a subdural hematoma may be present. After the hematoma has been diagnosed its location must be ascertained. Only temporal trephination on the suspected side will confirm the diagnosis. Perhaps the most reliable sign of localization is the production of pain by pressure on the side of the hematoma.

The author discusses also causes of error in localization.
EASTMAN SURGEON MOORE

Kornblum, E. The Responsibility of the Roentgenologist in the Detection of Intracranial Tumors. *Am J Roentgenol* 1935 33 152

While the final diagnosis of intracranial neoplasms is usually made in institutions with a well organized neurological service and localization is often dependent upon either encephalography or ventriculography, most patients with brain tumors are first seen by the general practitioner. Since successful treatment frequently depends upon early diagnosis it is essential that the early manifestations be recognized by those who see the patient first. Roentgen examination is often of inestimable value in the detection of such lesions and the general roentgenologist must share the responsibility of recognizing signs suggesting the need for further detailed study by those who have had more experience with cases of intracranial tumors.

The author briefly discusses the technique of roentgenography of the head. He emphasizes the importance of faultless roentgenograms showing the greatest possible detail. Proper positioning is a prime essential. As a rule two views, a direct lateral and an occipital view, are sufficient for a general survey. These may be supplemented by additional views as indicated.

The incidence of the various roentgen manifestations of intracranial tumor in a series of 446 verified cases was as follows

	Per cent
1 Deformation of the sella turcica	64 6
2 Convolutional atrophy	8 8
3 Calcification of the tumor	6 5
4 Widening of the sutures	4 6
5 Local bone erosion	2 9
6 Local hyperostosis	1 8
7 Lateral shift of the pineal body	1 8
8 Widened diploic channels	0 2

Each of these signs is discussed at length

Attention is directed to some of the pitfalls in diagnosis and brief reference is made to certain conditions which may simulate brain tumor

For the correct interpretation of roentgenograms with regard to intracranial tumors, correlation of clinical data with the roentgenological findings is extremely important. In order to evaluate apparent abnormalities in cases of suspected brain tumor the roentgenologist must be familiar with the chronology of the symptoms, the subjective evidence of increased intracranial pressure, focal symptoms, and the positive objective neurological signs

ADOLPH HARTUNG, M D

Dyke, C. G., Elsberg, C. A., and Davidoff, L. M.: Enlargement of the Defect in the Air Shadow Normally Produced by the Choroid Plexus *Am J Roentgenol*, 1935, 33 736

A study of normal cerebral structures by encephalography revealed a defect in the lower wall of the lateral ventricle at the junction of the body with the occipital and temporal horns. This defect, which was frequently seen in the normal encephalogram in both the lateral and the anteroposterior views, was found to be due to the projection of the choroid plexus into this portion of the lateral ventricle. It was present in 41 per cent of a series of ventriculograms and 50 per cent of a series of encephalograms. As measured from the lateral view with the patient in the horizontal position its average dimensions were 10 by 6 mm. The maximum normal was 15 by 15 mm.

In six ventriculograms the measurements were distinctly above normal with an average of 29 by 14 mm. In these cases there arose the question as to whether there was a tumor on or adjacent to the plexus or whether the defect was due to some other cause. Encephalograms made several days later in some of the cases showed the defect to have decreased in size. This led to the conclusion that temporary swelling in the region of the glomus of the choroid plexus may be the result of trauma to this structure or to the neighboring wall during ventricular puncture. In one case death followed, and autopsy revealed a definite hematoma in the atrium which extended into the occipital horn. This corresponded to the side on which ventricular puncture was done. The needle tract was definitely

hemorrhagic. These findings together with the facts that the location of the abnormally large defect corresponded to the glomus of the choroid plexus, that the defect occurred only after ventriculography and only on the side of the ventricular puncture when a single puncture was done, that the disease from which the patient was suffering was unrelated to the defect of the ventricle, and that no defect of large size was observed in 1,400 encephalograms indicated a relationship between the ventricular puncture and the filling defect.

JOHN WILTSIE EPTON, M D

Constantini, H., and Curtillet, E.: A Case of Bilateral Facial Paralysis Spino-facial Anastomosis and Resection of the Superior Cervical Ganglion on Both Sides (*Paralysie faciale bilatérale Anastomose spino-faciale et résection du ganglion cervical supérieur des deux cotes*) *Lyon chir*, 1935, 32-291

A man twenty-two years of age suffered a fracture of the skull which resulted in bilateral facial paralysis complicated by paralysis of the external oculomotor on both sides. Without doubt there was a fracture of both petrous bones. His face was mask-like and speech was difficult. Saliva ran from his mouth. Surgery was delayed for six months on the chance of spontaneous improvement, but as no improvement occurred operation was performed. The delay was justifiable as there were no lesions of the cornea.

The two methods generally used in such cases are the old one of anastomosis between the spinal or hypoglossal nerve and the facial nerve, and the more recent one of Leriche, resection of the superior spinal ganglion. In the case reported the authors performed both operations in four stages. They performed the anastomosis first on the left side and then on the right side and then the resection first on the left side and then on the right side. The final result was excellent although the recovery of normal movement and expression of the facial muscles was gradual. As it was impossible to anastomose with the hypoglossal nerve on both sides, the spinal accessory was used on both sides. At first there was a simultaneous contraction of the muscles of the face when the shoulders were lifted, but this ceased after a year.

As neither anastomosis nor resection of the ganglia is complete in itself, the authors recommend a combination of the two operations although they think it may be preferable to perform both operations on one side at the same time, making it a two-stage rather than a four-stage operation. Leriche's operation has the advantage of giving an immediate result and should be performed at once if the eyes are in danger. It may even correct a paralysis of the external oculomotor as it did on one side in the author's case. It corrects the lagophthalmos and generally restores the ability to close the eyes. The anastomosis restores facial expression by restoring the tonus of the facial muscles.

AUDREY GOSS MORGAN, M D

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS, CRANIAL NERVES

Dieulafe R. The Symptomatology of Traumatic Subdural Hematomas (*Sémiologie des hématomes sous-duraux traumatiques*) *Ann. de chir. Par.*, 1921 54 59

The author reviews fifty cases of traumatic subdural hematoma, most of which were reported in France since 1921. They included only cases of circumscribed meningeal hemorrhage of the cerebral surface. In a series of forty-two in which evacuation of the hematoma was done, there were only ten deaths. Dieulafe says that it is quite possible for blood to collect beneath the dura mater without diffusing into the subarachnoid space. In such cases lumbar puncture performed immediately after the accident will evacuate a clear fluid. Injury to the skull of any degree is capable of producing a subdural hematoma.

The free interval has been described as the period intervening between the disappearance of the immediate effects of the injury and the development of disturbances attributable to the presence of the intracranial hematoma. From the cases reviewed by the author it is evident that a short free interval is no indication that the hematoma is extradural and a long interval does not exclude an extradural hematoma.

The incidence of various symptoms such as headache, changes in character, coma, aphasia, meningeal symptoms, epileptic attacks, hemiplegia, and paralytic motor disturbances is discussed. When headache can be increased by pressure it may be of some localizing value. Frequently changes in the tendon reflexes are the only indication of motor trouble. Unilateral mydriasis has a positive diagnostic value but bilateral mydriasis does not exclude hematoma.

The hematoma may be visible in the roentgenogram because of the presence of iron pigment in the connective tissue membrane. Encephalography will reveal a smooth cerebral surface in contrast to the normal convolutions. Because of the danger of this method of diagnosis it should be used only in cases in which the diagnosis is extremely difficult, i.e., those in which the traumatic origin has been forgotten or is in doubt. In the presence of craniospinal block, encephalography gives no information.

The localization of the hematoma is of great importance in indicating the side on which trephination should be done. Of fourteen cases in which the trauma was definitely limited to one side, the hematoma developed on the opposite side in four and on the same side in ten. Aphasia is an important

sign in that it indicates the presence of a lesion in the left hemisphere.

Ventricular pressure and ventriculography will sometimes be of aid in cases in which without it localization would be impossible.

There is not a single constant or pathognomonic symptom of subdural hematoma. The diagnosis can be established only on the basis of a combination of several signs. A progressive exacerbation of symptoms may be suggestive. In cases in which the free interval is very long and the traumatic history vague, it is necessary to consider the possibility of a non-traumatic cerebromeningeal involvement.

The combination of trauma and a free interval should arouse suspicion of a hematoma. Often localizing signs appear early, only to be obscured by superadded symptoms. All the typical signs may be absent and the onset sudden, in which case ventriculography, encephalography, or exploratory trephination may reveal the condition. Sometimes both a supradural and a subdural hematoma may be present. After the hematoma has been diagnosed its location must be ascertained. Only temporal trephination on the suspected side will confirm the diagnosis. Perhaps the most reliable sign of localization is the production of pain by pressure on the side of the hematoma.

The author discusses also causes of error in localization.
1221 55

EDITH SCHWARTZ MOORE

hornblum K. The Responsibility of the Roentgenologist in the Detection of Intracranial Tumors. *Am. J. Roentgenol.* 1935 33 157

While the final diagnosis of intracranial neoplasms is usually made in institutions with a well-organized neurological service, and localization is often dependent upon either encephalography or ventriculography, most patients with brain tumors are first seen by the general practitioner. Since successful treatment frequently depends upon early diagnosis, it is essential that the early manifestations be recognized by those who see the patient first. Roentgen examination is often of inestimable value in the detection of such lesions, and the general roentgenologist must share the responsibility of recognizing signs suggesting the need for further detailed study by those who have had more experience with cases of intracranial tumors.

The author briefly discusses the technique of roentgenography of the head. He emphasizes the importance of faultless roentgenograms showing the greatest possible detail. Proper positioning is a prime essential. As a rule two views, a direct lateral and an occipital view, are sufficient for a general survey. These may be supplemented by additional views if indicated.

The incidence of the various roentgen manifestations of intracranial tumor in a series of 446 verified cases was as follows

	Per cent
1 Deformation of the sella turcica	64.6
2 Convolutional atrophy	8.8
3 Calcification of the tumor	6.5
4 Widening of the sutures	4.6
5 Local bone erosion	3.0
6 Local hyperostosis	1.8
7 Lateral shift of the pineal body	1.8
8 Widened diploic channels	0.2

Each of these signs is discussed at length

Attention is directed to some of the pitfalls in diagnosis and brief reference is made to certain conditions which may simulate brain tumor

For the correct interpretation of roentgenograms with regard to intracranial tumors, correlation of clinical data with the roentgenological findings is extremely important. In order to evaluate apparent abnormalities in cases of suspected brain tumor the roentgenologist must be familiar with the chronology of the symptoms, the subjective evidence of increased intracranial pressure, focal symptoms, and the positive objective neurological signs

ADOLPH HARTUNG, M D

Dyke, C. G., Elsberg, C. A., and Davidoff, L. M.: Enlargement of the Defect in the Air Shadow Normally Produced by the Choroid Plexus. *Am J Roentgenol*, 1935, 33, 736

A study of normal cerebral structures by encephalography revealed a defect in the lower wall of the lateral ventricle at the junction of the body with the occipital and temporal horns. This defect, which was frequently seen in the normal encephalogram in both the lateral and the anteroposterior views, was found to be due to the projection of the choroid plexus into this portion of the lateral ventricle. It was present in 41 per cent of a series of ventriculograms and 50 per cent of a series of encephalograms. As measured from the lateral view with the patient in the horizontal position its average dimensions were 10 by 6 mm. The maximum normal was 15 by 15 mm.

In six ventriculograms the measurements were distinctly above normal with an average of 20 by 14 mm. In these cases there arose the question as to whether there was a tumor on or adjacent to the plexus or whether the defect was due to some other cause. Encephalograms made several days later in some of the cases showed the defect to have decreased in size. This led to the conclusion that temporary swelling in the region of the glomus of the choroid plexus may be the result of trauma to this structure or to the neighboring wall during ventricular puncture. In one case death followed, and autopsy revealed a definite hematoma in the atrium which extended into the occipital horn. This corresponded to the side on which ventricular puncture was done. The needle tract was definitely

hemorrhagic. These findings together with the facts that the location of the abnormally large defect corresponded to the glomus of the choroid plexus, that the defect occurred only after ventriculography and only on the side of the ventricular puncture when a single puncture was done, that the disease from which the patient was suffering was unrelated to the defect of the ventricle, and that no defect of large size was observed in 1,400 encephalograms indicated a relationship between the ventricular puncture and the filling defect.

JOHN WITTE LITTON, M D

Constantini, H., and Curtillet, E.: A Case of Bilateral Facial Paralysis. Spino-facial Anastomosis and Resection of the Superior Cervical Ganglion on Both Sides (Paralysie faciale bilatérale. Anastomose spino-faciale et résection du ganglion cervical supérieur des deux côtes). *Ann Chir*, 1935, 32, 201

A man twenty-two years of age suffered a fracture of the skull which resulted in bilateral facial paralysis complicated by paralysis of the external oculomotor on both sides. Without doubt there was a fracture of both petrous bones. His face was mask-like and speech was difficult. Saliva ran from his mouth. Surgery was delayed for six months on the chance of spontaneous improvement, but as no improvement occurred operation was performed. The delay was justifiable as there were no lesions of the cornea.

The two methods generally used in such cases are the old one of anastomosis between the spinal or hypoglossal nerve and the facial nerve, and the more recent one of Leriche, resection of the superior spinal ganglion. In the case reported the authors performed both operations in four stages. They performed the anastomosis first on the left side and then on the right side and then the resection first on the left side and then on the right side. The final result was excellent although the recovery of normal movement and expression of the facial muscles was gradual. As it was impossible to anastomose with the hypoglossal nerve on both sides, the spinal accessory was used on both sides. At first there was a simultaneous contraction of the muscles of the face when the shoulders were lifted, but this ceased after a year.

As neither anastomosis nor resection of the ganglia is complete in itself, the authors recommend a combination of the two operations although they think it may be preferable to perform both operations on one side at the same time, making it a two-stage rather than a four-stage operation. Leriche's operation has the advantage of giving an immediate result and should be performed at once if the eyes are in danger. It may even correct a paralysis of the external oculomotor as it did on one side in the author's case. It corrects the lagophthalmos and generally restores the ability to close the eyes. The anastomosis restores facial expression by restoring the tonus of the facial muscles.

AUDREY GOSS MORGAN, M D

SPINAL CORD AND ITS COVERINGS

Mackay R P and Favill, J. Syringomyelia and an Intramedullary Tumor of the Spinal Cord
Arch Neurol & Psychiat 1933 33 1255

The authors report a case in which syringomyelia and an intramedullary tumor occurred simultaneously. The two conditions appeared to be very closely related and a part of the same process. The usual symptoms of syringomyelia were lacking although a considerable portion of the spinal cord was involved. From these observations the authors conclude that the occurrence of spina bifida occulta, hydrocephalus, embryological malformations and other developmental anomalies with or without vague and otherwise inexplicable neurological findings should lead one to suspect the presence of a subclinical form of syringomyelia.

In the case reported the pathological process was obviously a glial proliferation with the cellular elements consisting predominantly of fibrillary astrocytes and immature ependymal spongioblasts. The term "gliosis" has been used in referring to this tissue but since it is distinctly blastomatous it must be rigidly separated from the gliosis which is secondary to the destruction of nerve parenchyma.

The tumor was a typical ependymoblastoma and there were many areas which were strikingly similar to the primary ependymal gliosis of syringomyelia. It was as if the ependymoblastoma had developed in the pre-existing syringomyelia. The primary ependymal gliosis of syringomyelia was therefore a tissue composed of ependymal spongioblasts and their descendant astrocytes while the tumor was a tissue composed of ependymal spongioblasts and their descendants immature ependymal cells.

The authors recognize the following types of syringomyelia: (1) the simple gliotic type; (2) the degenerative sclerotic type; and (3) syringomyelia with an intramedullary tumor.

Simple gliotic type. Four mechanisms seem to lead to the development of this type. These are:

1. Malformation of the medial dorsal septum. In this condition the neural crests remain entirely separated and the central cavity is in free communication with the subarachnoid space.

2. Glial proliferation. This change follows and is possibly due to dysraphism. The proliferation involving the spongioblastic descendants of the germinal cells results in the primary ependymal gliosis which may include the central canal or occur entirely in the septum.

3. Vascular proliferation. The vessels show an increase both in their number and the thickness of their walls. The majority lie in the peripheral portions of the gliosis.

4. Central degeneration. This is probably dependent upon inadequate and gradual obstruction of the blood supply in the central areas of the gliosis. It is the final step in the process and leads to cavitation. The cavity may represent in part the original defect in the formation of the septum.

Degenerative sclerotic type. In some cases the central degeneration appears to extend to almost all the gliotic tissue and sclerosis by connective tissue supervenes. The relative amounts of fibrosis and gliosis seem to depend to a considerable extent upon the severity of the developmental failure and the degree to which glial connective tissue elements are included in the medullary tube.

Syringomyelia with an intramedullary tumor. This type is comparatively frequent. In the case reported the two conditions appeared to be diverging manifestations of the same proliferative process. The presence of astrocytomas and other tumors of the astrocytic series may be explained on the same basis. In hemangioblastomas, lipomas and teratomas the neoplastic tissue is no longer ependymal or glial but arises from the mesoblastic or ectodermal tissues which are included heterotopically in the medullary tube at the time of its closure.

JOHN WILLIAMS LEWIS, M.D.

SYMPATHETIC NERVES

Pieri, G. Clinical Contributions to the Surgery of the Sympathetic Nervous System. VIII. Surgery of the Intestinal Nerves. (Contributi alla chirurgia dei nervi simpatici vegetativi. VIII. Chirurgia della innervazione intestinale). *Arch ital chir* 1933 39 541.

This article is based on twenty-two cases of pain in the right iliac to a due to various causes, four cases of colitis and twenty-one cases of constipation.

In cases of the first type there is mild but persistent pain in the right inferior quadrant limited usually to McBurney's point but at times diffuse over the entire cecum and the lower part of the ascending colon. The initial attack is acute and resembles an attack of appendicitis. The author divides the reviewed cases of this syndrome into the following subgroups: (1) painful cerum, eight cases; (2) movable cerum, six cases; (3) membranous pericolicitis, six cases; and (4) spasm of the ileocecal valve, two cases.

In the cases of painful cerum no cause could be determined. The treatment of choice was resection of the ileocecal plexus with appendectomy performed at the same time through the same opening. In most of the cases the operation was followed by immediate cessation of the pain and there was no recurrence after more than a year. In two cases the pain was relieved but did not cease entirely.

In the cases of movable cerum the operations performed for relief of the pain were of the following three types: (1) resection of the small splanchnic nerve; (2) resection of the tenth and eleventh ramus communicantes on the right side; and (3) resection of the ileocecal plexus. The results of all were good. One patient who has been under observation for seven years has had no recurrence of the pain.

In the cases of membranous pericolicitis the operations performed were: (1) resection of the ramus

communicantes of the tenth and eleventh thoracic nerves and (2) resection of the iliocecal plexus. The results of both of these operations were satisfactory. The patients have remained free from pain for a maximum of six years and a minimum of eight months.

In cases of spasm of the ileocecal valve pain is elicited by palpation over the lower part of the abdomen on the right side at a point a little higher and more internal than McBurney's point and roentgen examination discloses a constriction at the level of the ileocecal valve with dilatation of the adjacent loop of colon. In the two cases reviewed, resection of the tenth and eleventh sympathetic ganglia yielded excellent results.

The type of colitis discussed by the author is the so-called specific colitis of Schmidt due to such causes as constipation and nervous and characterized by abdominal pain, constipation alternating with diarrhea, mucus in the feces, and pain on palpation of the colon. At operation in the cases reviewed the colitis was found on the right side of the colon. The left side of the colon was spastic. The operations were: (1) resection of the mesocolic and inferior mesenteric plexuses on both sides, (2) resection of the iliocecal plexus only, and (3) resection of the sympathetic plexus of the second and third lumbar segments. The results in all cases were satisfactory.

Constipation is of three clinical types: atonic constipation, spastic constipation, and dysheria.

Atonic constipation is due to atony of the intestinal musculature. In the condition roentgen ex-

amination shows a large atonic cecum and ascending colon. Clinically atonic constipation is characterized by long intervals (several days) between evacuations and pain on palpation over the right iliac fossa. In three of the reviewed cases resection of the tenth and eleventh thoracic ganglia corresponding to the innervation of the cecum was done with good results in all. In two cases, resection of the lumbar sympathetic chain on both sides from the level of the third to the fifth lumbar segments was done with fair results in two and indifferent results in three.

Spastic constipation is the constipation of neurotic persons. The evacuations are not so infrequent as in atonic constipation, but are accompanied by pain and general reflex phenomena. Roentgen examination shows a markedly contracted descending colon and sigmoid. Clinically, palpation reveals pain on the left side of the abdomen, and the contracted descending colon can be felt. In two of the reviewed cases the left vagus was cut above the diaphragm and in the right others the descending and inferior mesenteric plexuses were resected. The results were mediocre.

In dysheria the feces accumulate in the rectum without being expelled. This may be due to an irritating stimulus to the anorectal sphincters, lack of response to the stimulus of evacuation, or inhibition of the stimulus to evacuation. The author advises resection of the superior hypogastric plexus, but calls attention to the fact that in the male the afferent path of the reflex of ejaculation passes through this plexus. DAVID JOSE, IGNAZIO M. D.

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Santa L. *Myxomatous Tumors of the Breast* (Sui tumori miomatosi della mammella) *Ann. Chir.* 1933, 34, 85

Myxomatous tumors constitute only about 0.18 per cent of tumors of the breast. Pure myxoma of the breast is very rare. Myxomatous tissue is usually associated with other neoplastic tissues, both epithelial and connective tissue. The types of myxoma listed in the literature include the adenomyxoma, fibromyxoma, chondromyxoma, leiomyxoma and sarcomyxoma. The e also may be combined.

Santa reports in detail two cases of myxomatous tumor of the breast. In one the tumor had been present for thirty years and in the other, for twelve years. Rapid growth of the tumor to huge proportions and myxomatous changes began suddenly without relation to changes in sex life, pregnancy, lactation or trauma. This type of development naturally suggests sarcomatous degeneration. Physical examination usually reveals a benign type of circumscribed non adherent tumor of the expansile rather than the infiltrating type. There is no tenderness or spontaneous sensitivity. In the first case reported by the author a radical mastectomy was done and in the second a conservative operation.

Except for minor variations the pathological changes were the same in both tumors. The neoplasms were classified as myxofibro adenomas. The differentiation from intracanalicular fibro adenoma with myxomatous degeneration of the connective tissue is not clear. Apparently in the latter the myxomatous tissue does not take an active proliferating part in the process. An infiltrating type of tumor must be recognized. This suggests malignant degeneration. It represents a breaking through of the myxomatous tissue into the tissue surrounding the capsule of the tumor and must be considered latently malignant. Tumors of this type are known to recur after incomplete excision. The treatment of choice is therefore radical amputation of the breast with axillary dissection. **A. Louis Rossi M.D.**

Martorell J. *Rapidly Disseminating Cancers of the Breast* (Los cánceres mamarios de diseminación rápida) *Rev. de ciruj. de Barcelona* 1935, 5, 217

The author describes an extremely malignant and rapidly fatal form of cancer of the breast which in the beginning presents the picture of an ordinary inflammation and may be mistaken for mastitis and treated as such until treatment is hopeless. The histological picture of this form of tumor is shown by photomicrographs.

The neoplasm begins in the galactophorous ducts and extends and multiplies in pre existing normal

spaces, the galactophorous ducts and gland acini without at first seeming to affect the connective tissue. Finally it invades the lymphatic tracts and blood vessels, and thereafter its progress is extremely rapid and malignant. The whole gland is edematous and shows masses of undifferentiated and independent cells some of which are giant cells with enormous and irregularly lobulated nuclei. There are many mitotic figures. The polymorphism of the cells is in marked contrast to the homogeneous character of the cells in ordinary forms of tumor. Sclerosis does not occur, and the blood vessels do not become obliterated. Tumor cells are found in the circulating blood.

Once the malignant stage of the tumor has begun no form of treatment has any effect. Accordingly there is hope only if the diagnosis is made in the intracanalicular stage. The physician should bear in mind the fact that in young women these tumors may begin with the appearance of an ordinary inflammation and that it is better to make a useless biopsy in a case of mastitis than to fail to make a biopsy in a case in which such extraordinary malignancy may develop.

AUDREY GO S. MORGAN M.D.

TRACHEA, LUNGS, AND PLEURA

Westermarck N. *The Situation of the Pleural Exudate in Obstructive Atelectasis of the Lung* *Acta radiol.* 1935, 16, 345

In eighteen cases of obstruction atelectasis with a free pleural exudate the upper border of the exudate extended obliquely laterally and downward instead of as usual obliquely medially and downward. The position of the exudate was dependent somewhat upon its amount and the location of the obstructive atelectasis. From the localization of the exudate it was possible to determine the position of the bronchial obstruction.

The displacement of the free pleural exudate in cases of obstructive atelectasis is similar to the well known displacement of the heart and mediastinum, the retraction of the thoracic cavity and the elevation of the diaphragm which occur with this pulmonary condition and is to be looked upon as due to suction and to equalization of the altered conditions of pressure in the pleural cavity.

Zanetti S. *The Value of Roentgen Examination in the Surgical Treatment of Pulmonary Tuberculosis* (Il valore dell'indagine radiologica nella cura chirurgica della tubercolosi polmonare) *Riv. di med.* 1935, 22, 423

Zanetti states that for the treatment of pulmonary tuberculosis roentgen examination has been

found very useful if not indispensable. It is important in diagnosis because it reveals not only the site of the lesion but also its extent and character. It has been found particularly useful in cases in which surgical intervention is contemplated.

The surgical procedures for the treatment of certain types of pulmonary tuberculosis are rather numerous. Their indications and contraindications depend almost exclusively on the roentgen findings. Resection of the phrenic nerve, for example, is indicated in all cases in which a spontaneous tendency toward pulmonary retraction is found and contraindicated in cases of bilateral lesions.

The extent of the lesion and its anatomico-pathological features are probably the most important criteria by which the surgeon may decide on one type of surgical intervention rather than another.

Roentgen examination enables the surgeon to follow accurately the course and evolution of the tuberculous process and therefore to modify the treatment at any time that a change is desirable. It is of considerable value also in establishing the prognosis.

Zanetti describes in detail the various types of surgical procedures which are employed in the treatment of pulmonary tuberculosis, discusses their indications, and reports a series of cases showing the value of roentgen examination in the surgical treatment of pulmonary tuberculosis.

The article contains a number of illustrations.

RICHARD L. SOWRS

Holst, J., Semb, C., and Frimann-Dahl, J.: On the Surgical Treatment of Pulmonary Tuberculosis. *Acta Chirg Scand*, 1935, 79 Supp. 37, 1.

This article is based on 200 cases of pulmonary tuberculosis treated surgically—122 at the State Hospital, Surgical Department A of the University Clinic at Oslo, 45 at the Vardaaen Sanatorium, and 33 at the Glitre Sanatorium. Twelve types of operations were performed. The authors' findings and conclusions are summarized as follows:

1. The results of all operations are dependent essentially on the collapse of the cavity achieved. With very few exceptions, the patients whose cavities were completely collapsed became clinically free from symptoms and bacilli and fit for work, while those whose cavities were not completely collapsed did not become free from symptoms or fit for work, and continued to harbor bacilli. Many of the latter subsequently died of the tuberculosis.

These facts demonstrate that the surgical treatment of pulmonary tuberculosis is to a very great degree cavity therapy. The size and site of the cavity are the factors determining the type and extent of the collapse effect required. Non-cavernous, more or less latent infiltrations usually do not require surgical collapse therapy.

2. Examination to determine the site of the cavity in 136 unselected cases of surgical pulmonary tuberculosis demonstrated isolated cavities in one

of the upper lobes in 128 cases and cavities in the middle and lower lobes in 8 cases. This proves that in the great majority of cases of surgical pulmonary tuberculosis collapse of only the upper lobe is required. In other words, there is great need for selective operations on the upper lobe.

3. In studies of the ability of the different operative methods to meet the demands made by the conditions of the cavity it was found that paravertebral total thoracoplasty does not have a selective effect and does not produce definite effective collapse of the upper lobe. Of 26 patients subjected to this operation, effective collapse of the cavity was achieved in only 7. It is therefore apparent that the paravertebral total thoracoplasty does not produce the desired mechanical effect on the upper lobe. The deficiency of the collapse of the upper lobe after this operation is due partly to deficient relaxation from one side to the other (i.e., insufficient resection of the upper ribs) and partly to failure of relaxation of the lung from above and from behind.

4. The principal requirement is relaxation of the lung permitting the cavity to shrink concentrically. Attempts have been made to achieve this by combining an extensive apicectomy with extensive resection of the upper ribs.

5. After trials with different methods, we adopted the extrafascial apicectomy described by Semb, combined with total extirpation of the first rib and total or subtotal extirpation of the second rib, with resection of the subjacent ribs to the extent indicated by the extension of the process.

Of 96 patients subjected to Semb's extrafascial apicectomy and resection of ribs in the State Hospital and the Vardaaen Sanatorium, complete collapse of the cavity was obtained in 88. Of the 8 in which complete collapse was not obtained, 4 were operated upon only a few weeks before this report was made. It appears therefore that the mechanical effect produced on the cavities by thoracoplasty with extrafascial apicectomy is definitely superior to that produced by paravertebral total thoracoplasty or by Graf's upper lobe thoracoplasty.

This was demonstrated also in the cases in which collapse of the cavity was not achieved by the ordinary paravertebral thoracoplasty or the Graf thoracoplasty, but was obtained later by thoracoplasty with extrafascial apicectomy. Complete collapse of the cavity was obtained in 10 out of 11 cases in which such re-operations were performed.

6. As shown by roentgenograms, the selective effect of apical thoracoplasty with extrafascial apicectomy is very marked. The extent of the collapse may be varied as required. In other words, the method may be individualized to a pronounced degree.

7. The number of cases in which each of the different operations was performed was too small to permit comparative statistics of mortality. However, a comparison of the results of the operations at the State Hospital and the Vardaaen and Glitre Sanatoriums shows that in 77 cases in which

apical thoracoplasty with resection of the fourth to sixth ribs and extrafascial apicolysis was done there were 2 postoperative deaths. The mortality of somewhat less than 3 per cent indicates that this method involves a very reasonable operative risk. Investigations regarding the postoperative changes showed that particularly the apical thoracoplasties do not reduce the expectorative ability to the same extent as total thoracoplasty. As expectorative ability following the selective apical thoracoplasties is relatively good these operations are attended by less risk of postoperative pulmonary complications such as atelectasis pneumonia and bronchial obstruction which constitute the most serious danger of thoracoplasty.

In the cases in which upper lobe thoracoplasty with resection of seven or eight upper ribs and extrafascial apicolysis was done and those in which total thoracoplasty with extrafascial apicolysis was performed the mortality was decidedly higher than that of apical thoracoplasty with extrafascial apicolysis. This fact was due to the more extensive resection of the ribs in the former procedures which impaired expectorative ability to a greater degree and thereby increased the incidence of pulmonary complications. It was presumably of some importance also that in the cases in which the former operations were performed the tuberculosis was more advanced than in those treated by apical thoracoplasty with extrafascial apicolysis and phrenicectomy was done more frequently.

Since, in our opinion the extensive resection of the ribs in upper lobe thoracoplasty with extrafascial apicolysis and total thoracoplasty with extrafascial apicolysis was the cause of the higher mortality in the cases in which these operations were performed we intend in the future to perform total thoracoplasty with extrafascial apicolysis in several stages in every case and to perform upper lobe thoracoplasty with extrafascial apicolysis in 2 stages more frequently than heretofore.

As a consequence of the results in the cases reviewed extrafascial apicolysis has been done in all cases of upper lobe cavitation treated at our clinic during the last two years.

According to whether the indication was collapse of the apex of the lung the entire upper lobe or the entire lung the extrafascial apicolysis has been combined with apical thoracoplasty (resection of the fourth fifth and sixth upper ribs) upper lobe thoracoplasty (resection of the seventh and eighth upper ribs) or total thoracoplasty (resection of nine ribs or more).

The chief advantage of extrafascial apicolysis is that it takes the form of an anatomical dissection under direct vision. This insures safe hemostasis and facilitates mobilization particularly of the upper posterior and medial parts of the lung which are affixed to the neurovascular trunk, the spinal column and the mediastinum.

8 The postoperative course has been closely followed by roentgen examination at intervals of a few

days from the day of the operation. The most frequent and important complications have been pulmonary complications depending on retention of bronchial secretion due to reduction of the ability to expectorate (bronchial obstruction atelectasis pneumonia mechanical suffocation). Of the total number of 14 deaths 8 were due to lung complications.

Postoperative atelectasis was revealed in approximately 50 per cent of the cases in which roentgen examinations were made. Fatal primary heart debility and fatal shock occurred in only 1 case each. One patient died of air embolism during an attempt at re-operation. Tuberculin shock was never observed.

9 The risk involved in thoracoplasty is therefore dependent essentially upon the extent to which expectorative ability is impaired and retention of bronchial secretion occurs after the operation. Expectorative ability is impaired by extensive resection of ribs suspended mobility of the diaphragm and poor fixation of the mediastinum. Therefore it is of importance to avoid too extensive resection of ribs in 1 stage to avoid phrenicectomy as a preliminary operation to thoracoplasty and to take particular care when operating upon patients with a mobile mediastinum. Our material demonstrates that pulmonary complications occur more frequently after major thoracoplasties than after apical thoracoplasties and more frequently in phrenicectomized patients than in patients with a normal diaphragm.

10 We consider phrenicectomy to be damaging in a double sense when cavities are situated in the upper lobe because it destroys the sound lower lobe and increases the danger of pulmonary complications after a subsequent thoracoplasty.

11 Paraffin packing is unable to compete with apical thoracoplasty with extrafascial apicolysis.

12 Like most other surgeons we attach great importance to the choice of the right time and the most favorable phase for the operation. The most favorable phase is the most fibrous phase.

Strieder J W, and Alexander J. Multiple Inter costal Neurectomy for Pulmonary Tuberculosis. *J Thoracic Surg* 1935 4 473

Multiple intercostal neurectomy is advocated for certain cases of pulmonary tuberculosis in which pneumothorax has failed and thoracoplasty is contra indicated. Neurectomy is recommended also for cases of predominantly unilateral lesions with or without small cavities in which the symptoms persist in spite of prolonged bed rest attempted pneumothorax and phrenic paralysis with or without scalenectomy. In well selected cases primary neurectomy may cause sufficient improvement to permit a later curative thoracoplasty. However this procedure is no longer advised for patients who are desperately ill.

The operation described is usually performed in two stages separated by an interval of one or two

weeks apart. It is done under local anesthesia. The posterior 3 or 4 cm. of the second to the sixth intercostal nerves should be resected, but the seventh to the ninth or tenth should be only crushed as these are the motor nerves to the upper abdominal muscles.

Of twenty cases so treated, an apparent cure was obtained in three, arrest of the condition in one, improvement in ten, and no improvement in one. Five of the patients died.

In conclusion the authors say that the operation should not be done unless bed rest and pneumothorax have been tried and have failed.

GEORGE A. COLLETT, M.D.

Pollock, W. C.: Thoracoplasty and Contralateral Artificial Pneumothorax. *J. Thoracic Surg.*, 1935, 4, 502.

Bilateral pulmonary tuberculosis may be treated successfully by performing thoracoplasty in the presence of a contralateral artificial pneumothorax. Pneumothorax should be induced on the less involved side and continued as an expansile type of compression for a sufficient period to warrant the application of more radical therapy of the side on which pneumothorax cannot be induced effectively.

Bilateral pneumothorax, at one time a rather radical procedure, is now used rather extensively. The procedure described is advocated as a further advance in the gradual evolution of compression therapy. The cases in which it is to be used must be very carefully selected. The rib resection must be sufficient to permit collapse of the diseased area while the relatively uninvolved portion is left free for respiratory function.

In the twelve cases in which the author has performed this operation since 1931 there were no operative deaths. In four cases the operation was done in 2 stages. In all of the cases the results were excellent. Pollock states that patients with a vital capacity 40 per cent of the normal should experience little operative respiratory difficulty. All of his patients are given glucose orally for twenty-four hours and 6 gr. of sodium amytal in preparation for nitrous oxide oxygen anesthesia. Post-operatively they are given oxygen at intervals, and frequent lung inflation is practised.

GEORGE A. COLLETT, M.D.

Epstein, A.: Complex Cases of Bronchial Dilatation (Quelques cas complexes de dilatations bronchiques). *Rev. méd. de la Suisse Rom.*, 1935, p. 470.

Four cases of bronchial dilatation with various complications are reported in detail.

The first case was one of bronchiectasis complicated by psoriasis in a man fifty-one years of age. At the age of thirty-nine years the patient had suffered an attack of grippe and bilateral bronchopneumonia followed by chronic cough and expectoration persisting for two or three years, occasional hemoptysis, and attacks of slight fever. Examination revealed bronchiectasis of the left base. Cure

was effected by the administration of anastil and the intratracheal application of filtered autogenous vaccine. During a transitory spontaneous remission of his bronchorrheic condition, the patient suffered from a generalized eruption of a pruriginous type, which was particularly marked about the elbows and knees. The rash was diagnosed as an atypical psoriasis, being more infiltrative than desquamative. As the pulmonary condition improved the psoriasis grew worse. Similar cases have been reported by Lacroix, who attributes the skin manifestations to variations in the cholesterolin of the blood. Melanoderma complicating bronchiectasis has also been reported.

The author's second case was one of congenital bronchiectasis with secondary bronchial asthma in a man twenty-nine years of age who had suffered from chronic purulent bronchorrhea following an attack of influenzal pneumonia on the left side. Whenever an exacerbation of the bronchorrhea occurred, as, for instance, after an attack of grippe, the patient suffered from a moderate, continuous dyspnea. When the bronchorrhea improved, the dyspnea became more severe, taking on an expiratory, asthmatic-form aspect. Then for a time an asthmatic state developed during intervals between the attacks of infectious bronchorrhea. This alternation gradually became more accentuated. A diagnosis of bronchiectasis of the left base was made. A series of about twenty injections of anastil cured the bronchorrhea, but the secondary asthma grew worse. Chrysotherapy and phosphoric acid were then administered, with the result that in a few months the patient was cured except for only a slight residual dyspnea and emphysema for which gold salts will be prescribed.

The third case was one of ankylosing rheumatism and bronchial dilatation in a man of fifty-six years. The patient first developed rheumatism following an attack of gonorrhea at the age of twenty-five years. Later, an attack of bilateral influenzal bronchopneumonia was followed by ankylosing rheumatism of the thoracic spine terminating after eight years in total rigidity of the thorax and spine. The patient suffered also from recurrent iritis. Various treatments were tried for the rheumatism, but failed to give relief. A few years later the Strumpell-Bechterew spondylosis was still further complicated by bronchitis followed by a progressive bronchorrhea with dyspnea. Three months' treatment with anastil injections resulted in marked improvement in the bronchorrhea, and injections of atophanyl had somewhat increased the mobility of the spine when a motor accident and a dry pleurisy so weakened the patient that almost all hope of saving his life was lost. The only chance for relief was offered by operative mobilization of the apical region of the lungs. This was attempted by a modified Freund operation. Shortly after the operation the patient died of other complications which included a dental abscess and pulmonary gangrene. Autopsy revealed a fresh primary tuberculosis of the liver.

The fourth case was one of cicatricial hemoptysic bronchial dilatation in a man of thirty-eight years.

injections of anastil and gomenol cured the bronchorrhea but after taking a fresh cold the patient was seized with severe hemoptoe which resisted all treatment. On the fourth day a hemostatic pneumothorax was induced. For safety, this was continued for a period of about two years. At the end of that time the hemoptoe recurred but was not of an alarming nature. As phrenectomy on the right side failed to control it and ultimately renewed severe hemorrhage occurred partial thoracoplasty was performed and supplemented by oleothorax. Since this operation there has been no further significant hemorrhage.

EDITH SCHANCK MOORE

Ivanissevich O. Ferrari R. C. and Brea M. M.
Bronchopulmonary Suppurations Due to Cancer of the Lung (*Supuraciones broncopulmonares consecutiva al cáncer del pulmón*). *Boletín de la Unión Quir. Univ. de Buenos Aires* 1934 10 229

A diagnosis of lung abscess is often made in cases of cancer of the lung. Infectious complications may so modify the clinical course of pulmonary cancer as to mask its nature. The symptoms and signs of these complications may confuse the most accurate observer. A correct diagnosis is important because the operative indications and prognosis are quite different in the two conditions.

Of thirty two cases of cancer of the lung only fifteen were correctly diagnosed at the time the patient entered the hospital. In cases in which the authors drained lung abscesses secondary to cancer marked improvement resulted in the first few months. In one case the patient gained 25 kgm. in weight in six weeks.

Laboratory examination of the sputum sometimes leads to the diagnosis by disclosing neoplastic tissue.

X-ray examination of the chest is of greatest value. The two characteristic features are bronchial obstruction and atelectasis. A homogeneous shadow in which there are small clear areas suggests disintegration of a cancerous area. Arborizations at the periphery suggest strands of cancer cells. In some cases, however, the X-ray findings may also be only those produced by the resulting infectious process.

Bronchoscopy is the most direct and exact method of establishing the diagnosis. The cancers are usually of bronchial origin and often located at the bifurcation of the larger bronchi. A positive diagnosis can be made only by biopsy. However narrowing of the bronchial lumen and progressive fixation and rotation of a bronchus must be considered more than suggestive. While cancer of the lung is being discovered more frequently with the aid of the bronchoscope the diagnosis is not yet made early very often.

WILLIAM P. MEYER M.D.

Gullotta G. Experiments on Resection of the Lung (*Prove sperimentali di resezione polmonare*). *Pubb. lin. Rome* 1933 47 322 clin 253

The greatest difficulties in surgery of the lung are germicidal closure of the bronchi and the prevention

of hemorrhage. Gullotta first briefly reviews the various methods by which these difficulties have been overcome experimentally and then reports lobarctomies and pneumectomies which he performed on dogs, rabbits and cats. In the latter he used the Reluacci-Churco technique, an easy and rapid method which eliminates the risk of hemorrhage. The lobe to be resected is exposed by the resection of ribs and then elevated to the plane of the ribs. If the cavity is closed at once by the lung the likelihood of pneumothorax is reduced. The lung is fixed to the skin by the technique of Churco and resected at a second operation.

In conclusion Gullotta says that while such drastic interventions can be carried out with success, results on experimental animals, their application to man is still associated with grave risk. Nevertheless, their performance on animals may yield information of value in clinical cases.

EUGENE T. LEDDY M.D.

HEART AND PERICARDIUM

Bunch G. H. Suppurative Pericarditis in J. Surg. 1935 23 673

Non-traumatic suppurative pericarditis is essentially secondary and most often follows respiratory disease particularly pneumonia or empyema. Septicemia, rheumatic fever or osteomyelitis may also be the cause. The organisms responsible are the various types of pneumococci, streptococci, and staphylococci.

The symptoms of pyopericardium are those of sepsis plus those of impairment of the circulation from mechanical embarrassment of cardiac action due to increasing pressure made upon the heart by the accumulating effusion. There is apt to be pericardial pain. Exacerbation of septic symptoms is common. There may be chills and high fever.

The diagnosis of pyopericardium remains a challenge to the medical profession. Effective treatment depends upon early recognition.

On physical examination the patient is found acutely ill, toxic and weak. The symptoms include shortness of breath, cyanosis and venous congestion. There may be general edema. The pulse is rapid. The heart sounds are usually indistinct and muffled and the apex beat is weak. Posteriorly there is dullness over the mediastinum and to the left. At some time in the course of the condition a definite friction rub may be found.

Röntgenograms of the chest should always be made. Careful paracentesis is indicated to determine the character of the effusion.

The mortality of purulent pericarditis when treated medically is practically 100 per cent. The disease is largely limited to childhood.

The treatment indicated is adequate drainage by open operation as soon as the diagnosis is made. Under local anesthesia the pericardium is approached through the interpleural space, the so-called triangle of safety. A wick of folded rubber dam is placed

into the pericardial cavity. Pulsation of the heart insures drainage of the pericardium if no encapsulated pus pockets are present.

No patient not moribund is too sick for operation. The hope of cure depends upon early drainage. Paracentesis is essentially a diagnostic procedure without a therapeutic effect.

J DANIEL WILLIAMS, M D

ESOPHAGUS AND MEDIASTINUM

Manges, W. F., and Clerf, L. H.: Congenital Anomalies of the Alimentary Tract; with Special Reference to the Congenitally Short Esophagus. *Am J Roentgenol*, 1935, 33 657

The authors divide the congenital anomalies of the alimentary tract into the following six groups: (1) atresia, (2) variations in the lumen, (3) variation in length, (4) variations in position, (5) adventitious membranes, and (6) diverticulum.

In discussing the atresias, they emphasize that an early diagnosis should be made by roentgen studies before surgical intervention is undertaken, and that the report of the findings of the roentgen examination should indicate particularly the length of the upper segment, or rather the level with relation to the vertebra at which this segment terminates. They have not seen any cases of congenital atresia of the esophagus below the level of the bifurcation of the trachea. When there is atresia of the upper esophagus, the presence of air in the stomach and intestines constitutes definite evidence that the lower segment of the esophagus communicates with the respiratory tract. The distribution of the intestinal gas may indicate also the site of stenosis lower in the gastro-intestinal tract.

Variations in the lumen may occur in any part of the gastro-intestinal tract. Narrowing has been found in the congenitally short esophagus and the small bowel, but never in the stomach.

The authors discuss congenital shortening of the esophagus in detail. They raise the question as to whether the large number of so-called "congenital hernias" of the diaphragm recorded in the literature were studied with the possibility of the presence of a short esophagus in mind.

The diagnosis of congenital short esophagus rests upon the roentgen findings. A portion of the stomach must be shown to remain above the diaphragm, and the esophagus must be shown to be too short to reach the diaphragm. In the cases of adults, the best roentgenograms are obtained in the right oblique prone position. The esophagogastric junction is usually at the level of the seventh or eighth thoracic vertebra.

In the cases reviewed the authors were unable to demonstrate roentgenographically the esophageal ulcers that were seen through the esophagoscope. The main symptoms were dysphagia, regurgitation, pain, and dyspnea. The findings of esophagoscopy consisted of a short esophagus, narrowing at the esophagogastric junction, a dilated portion of the

food passageway lined by gastric mucosa above the diaphragm level, and absence of the normal hiatus esophagus.

Among other congenital anomalies of the gastro-intestinal tract which are referred to briefly by the authors are non-rotation of the cecum, ptosis, adventitious membranes such as Jackson's veil, and diverticula of the bowel. LOUIS SPERLING, M D

Carroll, G. G.: Spontaneous Pneumothorax Coincident with Esophagoscopy: A Report of Two Cases. *Arch Otolaryngol*, 1935, 21: 515

In the first of the two cases of spontaneous pneumothorax reported the condition was fatal. The author attributes it to a rupture of a pleural adhesion causing an opening in the visceral pleura. In this case there was a curvature of the esophagus to the right which was overlooked by the roentgenologist because the fluoroscopic examination was made in only the right oblique diameter.

Carroll believes that in the second case the pneumothorax may have been due to rupture of the visceral pleura by an emphysematous bleb, a caseous tubercle, or some other factor.

Roentgenograms made in the two cases are presented. J FRANK DOUGHERTY, M D

Calzolari, T.: Nerve Tumors of the Mediastinum (Tumori nervosi del mediastino). *Arch Ital di chir*, 1935, 14 15.

Only a very few tumors of the posterior mediastinum are amenable to surgical attack. These include hydatid cysts, dermoid cysts, and primary tumors. Calzolari discusses ganglioneuromas and neurinomas. After reviewing the literature and the various theories regarding the pathogenesis and classification of these tumors, he reports six cases in which operation was performed for such neoplasms in Sauerbruch's clinic. The case histories are supplemented by roentgenograms, photographs of the gross specimens, and photomicrographs.

Clinically, these tumors are usually silent and are discovered accidentally in the course of a general examination. Even tumors of considerable size are well tolerated in the mediastinum. When subjective symptoms occur they usually consist of a sense of constriction in the chest and infrequent respiratory crises. Objective changes of significance are rare. In only one of the reported cases was there any dilatation of the veins of the neck suggesting constriction of the superior vena cava. This absence of clinical changes is in contradistinction to the classical picture of mediastinal tumors. The classical picture is usually that of malignant tumors which as a rule are situated in close contact with the vital structures of the mediastinum.

The location of nerve tumors of the mediastinum is usually in the concave region of the chest at the junction of the ribs and vertebrae where, otherwise, little besides lung parenchyma is present, there is considerable room for expansion of the tumors, and the resulting lung compression is easily compensated.

Injections of anastil and gomenol cured the bronchorrhea but after taking a fresh cold the patient was seized with severe hemoptysis which resisted all treatment. On the fourth day a hemostatic pneumothorax was induced. For safety this was continued for a period of about two years. At the end of that time the hemoptysis recurred but was not of an alarming nature. As phrenicectomy on the right side failed to control it and ultimately renewed severe hemorrhage occurred partial thoracoplasty was performed and supplemented by oleothorax. Since this operation there has been no further significant hemorrhage.

F. D. SCHWARTZ, MOORE

Ivanissevich O. Ferrari R. C. and Brea M. M.
Bronchopulmonary Suppurations Due to Cancer of the Lung (Supuraciones broncopulmonares consecutivas al cáncer del pulmón). *Boletín de la clin. quir. Univ. de Buenos Aires* 1934 10 229

A diagnosis of lung abscess is often made in cases of cancer of the lung. Infectious complications may so modify the clinical course of pulmonary cancer as to mask its nature. The symptoms and signs of these complications may confuse the most accurate observer. A correct diagnosis is important because the operative indications and prognosis are quite different in the two conditions.

Of thirty two cases of cancer of the lung only fifteen were correctly diagnosed at the time the patient entered the hospital. In cases in which the authors drained lung abscesses secondary to cancer marked improvement resulted in the first few months. In one case the patient gained 25 kgm. in weight in six weeks.

Laboratory examination of the sputum some times lead to the diagnosis by disclosing neoplastic tissue.

X-ray examination of the chest is of greatest value. The two characteristic features are bronchial obstruction and atelectasis. A homogeneous shadow in which there are small clear areas suggests disintegration of a cancerous area. Arborizations at the periphery suggest strands of cancer cells. In some cases however the X-ray findings may also be only those produced by the resulting infectious process.

Bronchoscopy is the most direct and exact method of establishing the diagnosis. The cancers are usually of bronchial origin and often located at the bifurcation of the larger bronchi. A positive diagnosis can be made only by biopsy. However narrowing of the bronchial lumen and progressive fixation and rotation of a bronchus must be considered more than suggestive. While cancer of the lung is being discovered more frequently with the aid of the bronchoscope the diagnosis is not yet made early very often.

WILLIAM R. MEERER, M.D.

Gullotta G. Experiments on Resection of the Lung (Prove sperimentali di resezione polmonare). *Policlinico* Rome 1935 42 sez. clin. 283

The greatest difficulties in surgery of the lung are germetic closure of the bronchi and the prevention

of hemorrhage. Gullotta first briefly reviews the various methods by which these difficulties have been overcome experimentally and then reports lobectomies and pneumectomies which he performed on dogs, rabbits, and cats. In the latter he used the Bellucci-Chiurco technique an easy and rapid method which eliminates the risk of hemorrhage. The lobe to be resected is exposed by the resection of ribs and then elevated to the plane of the ribs. If the cavity is closed at once by the lung the likelihood of pneumothorax is reduced. The lung is fixed to the skin by the technique of Chiurco and resected at a second operation.

In conclusion Gullotta says that while such drastic interventions can be carried out with successful results on experimental animals their application to man is still associated with grave risk. Nevertheless their performance on animals may yield in formation of value in clinical cases.

F. GENE T. LEDDY, M.D.

HEART AND PERICARDIUM

Bunch G. H. Suppurative Pericarditis. *Am. J. Surg.* 1935 28 613

Non-traumatic suppurative pericarditis is essentially secondary and most often follows respiratory disease particularly pneumonia or empyema. Septicemia, rheumatic fever or osteomyelitis may also be the cause. The organisms responsible are the various types of pneumococci, streptococci and staphylococci.

The symptoms of pyopericardium are those of sepsis plus those of impairment of the circulation from mechanical embarrassment of cardiac action due to increasing pressure made upon the heart by the accumulating effusion. There is apt to be precordial pain. Exacerbation of septic symptoms is common. There may be chills and high fever.

The diagnosis of pyopericardium remains a challenge to the medical profession. Effective treatment depends upon early recognition.

On physical examination the patient is found acutely ill, toxic and weak. The symptoms include shortness of breath, cyanosis and venous congestion. There may be general edema. The pulse is rapid. The heart sounds are usually indistinct and muffled, and the apex beat is weak. Posteriorly there is dullness over the mediastinum and to the left. At some time in the course of the condition a definite friction rub may be found.

Röntgenograms of the chest should always be made. Careful paracentesis is indicated to determine the character of the effusion.

The mortality of purulent pericarditis when treated medically is practically 100 per cent. The disease is largely limited to childhood.

The treatment indicated is adequate drainage by open operation as soon as the diagnosis is made. Under local anesthesia the pericardium is approached through the interpleural space, the so-called triangle of safety. A wick of folded rubber dam is placed

young children, the presence of associated congenital anomalies, and the absence of symptoms for a long time. From a study of cases reported in the literature, the authors conclude that the weight of evidence indicates that as a rule the condition is congenital.

In all cases the diaphragm is definitely elevated, thinned out, and fibrotic. The muscle tissue varies in amount and not infrequently is entirely lacking. The lungs show no evidence of compression. Abnormally lobulated and also aplastic lungs have been reported. In eventration on the left side the heart and mediastinum are displaced toward the right side. In the reports of cases of eventration on the right side the position of these structures was not stated. Of the 185 cases collected by the authors, including 2 of their own, the lesion was on the left side in 165 and on the right side in only 18.

Symptoms usually appear insidiously, but occasionally develop suddenly. They vary considerably and are not characteristic. They may be divided into the following groups: (1) respiratory, (2) gastro-intestinal, (3) circulatory, and (4) general. Gastro-intestinal and respiratory symptoms dominate the picture in the majority of cases. In the cases reviewed the gastro-intestinal symptoms, mentioned in order of decreasing frequency, were abdominal pain, vomiting, "pressure" in the stomach, gas, constipation, nausea, belching, loss of appetite, diarrhea, cramps, and heartburn. The respiratory symptoms,

in the same order, were dyspnea, pain in the chest, cough, and wheezing. The cardiac symptoms were palpitation, cyanosis, and tachycardia.

On physical examination, the following typical but not pathognomonic signs may be noted: labored breathing (mild or severe) with cyanosis, diminished movement of the affected hemithorax, diminished tactile fremitus and breath sounds, displacement of the apex beat and the area of cardiac dullness, absence of Litten's sign, and the presence of Korn's or Hoover's sign.

While none of the roentgen signs are pathognomonic, a number are strongly suggestive of the condition. The latter are an unbroken, curved, convex line from the lateral wall of the chest to the mediastinum, and the so-called "cup and spill," "cascade type," or bilocular stomach.

The clinical diagnosis of eventration of the diaphragm is difficult because of the absence of pathognomonic signs and symptoms. The condition must be differentiated from diaphragmatic hernia, pleurisy with effusion, thickened pleura, thoracic stomach, pulmonary cysts and tumors, atelectasis, emphysema, and neurosis.

The treatment is entirely symptomatic. Surgical intervention has not been found to give markedly successful results.

The authors report two cases which they studied in detail. A voluminous bibliography is appended to the article.

ARTHUR S W TOLROFF, M D

for by the remainder of the lung. The left thoracic cavity is involved more frequently than the right. This may be explained by early embryonic development. The left sided rotation of the heart may be a factor. Other influences which may play a role are the pressure of the relatively large embryonic heart and later possible pressure from diaphragmatic hernia or from the absence of a lung. Nerve tumors of the mediastinum are three times as frequent in females as in males and are most common in young persons. The average age of the patients whose cases are reviewed was twenty four years.

In general these tumors must be considered benign. They may remain quiet for many years. They may cause symptoms by pressure but only very rarely do they become infiltrating.

From the histological point of view the two fundamental elements involved namely the ganglion cells and the nerve fibers should be considered separately. The cells may be the result of an abnormal development of embryonal ganglionic tissue or may represent the growth of aberrant ganglionic tissue. The origin of tumors consisting chiefly of nerve fibers is doubtful.

These tumors must be differentiated from all other types of benign tumors and from cysts of the mediastinum. Frequent recognition of their nature requires a histopathological examination. The X ray may be of great aid in the differentiation.

The treatment indicated is exclusively surgical. To date irradiation has not been successful. When the diagnosis is reasonably certain tumors of limited size should be removed because almost inevitably they will become larger. The author gives a brief description of the technique employed by Sauerbruch.

A. LOUIS ROSE, M.D.

Decker H R. Primary Malignant Tumors of the Thymus Gland. *J Thoracic Surg* 1935; 4: 445

The most common abnormality of the thymus gland seen in clinical practice is the benign hyperplasia of infancy. Less frequent is the hyperplasia associated with Hodgkin's disease, exophthalmic goiter, myasthenia gravis, leukemia and status lymphaticus. Malignant growths, while comparatively rare, are being reported from time to time. Including cases reported by the author, 205 cases of malignant thymic tumors were recorded up to June 1934.

Malignant tumors of the thymus are difficult to diagnose. Pathologists disagree regarding their classification because the origins of the thymic cells are still in doubt. The gland develops from the endoderm of the third branchial cleft. By some the thymic cells and Hassall's corpuscles are considered derivatives of the endodermal reticulum. Ewing classifies malignant tumors of the thymus as lymphosarcomas, carcinomas, sarcomas and endotheliomas.

These tumors differ widely in their histological appearance but are similar in their gross appearance. The usual tumor is located in the superior and anterior mediastinum and tends to be encapsulated

in the mediastinum. It folds around in crab-like fashion and compresses the intrathoracic viscera. It varies in color usually from a pearly gray to various tawny shades. It is hard and may be even cartilaginous. It invades adjacent viscera by direct extension more often than by metastasis. Metastasis occurs late. Crohn's study of metastasis in 144 cases showed that involvement of the trachea and the thyroid is infrequent.

The recognition of thymus malignancy in the early stages is difficult because the onset of the condition is insidious. A persistent cough and dyspnea usually occur early. These are followed by symptoms of progressive mediastinal pressure such as pain, hoarseness, cyanosis and dysphagia. Cervical lymph glands may soon become enlarged. When the physician is consulted a tumor of the chest wall or neck is usually present. In some cases concomitant disease overshadows the thymic picture and the malignant tumor of the thymus is found only at autopsy. Because of the paucity of early subjective symptoms, X-ray examination is helpful and important.

The diagnosis is based upon a palpable tumor of the chest wall or neck, manifestations of increased intrathoracic pressure and the findings of X-ray examination. Biopsy of accessible lymph glands may reveal the character of the growth. In the differential diagnosis pulmonary tuberculosis, Hodgkin's disease, primary malignant growths of the bronchial and mediastinal lymph glands, subternal goiter, aneurism and tumors of other than thymic origin must be ruled out.

Surgical treatment is justifiable in selected cases. It has a very limited scope in the treatment of malignant thymic growths because of the infiltrating nature of the tumors and the difficulty of making an early diagnosis. In a very small percentage of cases of radiosensitive tumors, particularly those of the lymphosarcoma type, radiotherapy offers palliation and a chance of cure. Carcinomatous tumors are always fatal as they are radioresistant.

The article contains tables summarizing the symptoms, pathological changes, treatment and results in 100 cases of primary malignant tumors of the thymus gland.

J. EDWIN KIRKPATRICK, M.D.

MISCELLANEOUS

Reed J A and Borden D L. Eventration of the Diaphragm with a Report of Two Cases. *Arch Surg* 1935; 31: 30.

The term eventration of the diaphragm means an elevated position of one leaf of the diaphragm characterized pathologically by aplasia or atrophy of the muscle fibers but with no break in their continuity. The first case was described by Petit after a postmortem examination in 1774.

The condition may be either congenital or acquired. In support of the theory that it is of congenital origin are its relative frequency on the left side, its frequency in the fetus, newborn infants and

the presence of digestive juice on the mucous membrane surface (oral or rectal administration), the state of the intestine due to the previous administration of various purgatives or liquid enemas, and the composition of the contrast material. It is necessary to take into consideration also the technique used to render the folds visible and whether or not the examination was carried out during the course of medical treatment

Christiansen, T.: Uremia as a Cause of Death in Massive Hemorrhage from Peptic Ulcer. *Acta med Scand*, 1935, 85 333

In 286 cases of peptic ulcer complicated by massive hemorrhage which were treated during the decade from 1923 to 1932 there were 23 deaths. Two of the fatal cases were of no particular interest because the deaths were not directly associated with the hemorrhage. In 3 of the others, death was caused by perforation with peritonitis. In 12 of the 16 cases coming to autopsy, erosion of a fairly large artery was found. Of interest was the fact that death occurred on an average of thirteen and a half days after the patient's admission to the hospital. The earliest death occurred on the third day, and the latest on the thirtieth day. As it is hardly possible for a patient to live more than a few hours with continual arterial hemorrhage, it may be concluded that the bleeding stopped some time before death and that "the hemorrhage cannot have been the cause of death in the more strict sense of the term."

After the elimination of complicating and concurrent infections there still remained a rather large group of fatal cases in which the cause of death was obscure. Detailed study of 2 cases of this group showed no urinary excretion of sodium chloride, a marked increase in the blood urea, and clinical improvement following the administration of large amounts of physiological salt solution. The patients were not vomiting. One of them died. In the case of this patient autopsy revealed no active process or blood-vessel erosion and no sign of degeneration or inflammatory renal processes. Christiansen therefore advances the theory that the hyperazotemia presented by these patients was a sign of an intoxication resulting from the absorption of toxic substances formed by bacterial decomposition of blood stagnated in the intestinal tract, and aggravated by demineralization from excessive flushings of the organism by water. SAMUEL J. FOGELSON, M.D.

Kirklin, B. R.: Some Phases of the Roentgenological Diagnosis of Gastric Cancer. *Radiology*, 1935, 24 672

When Carman came to Rochester, Minnesota, in 1913 he knew relatively little about gastro-intestinal roentgenology. When he walked out of the screen room for the last time, nine years ago, he was undoubtedly one of the ablest roentgenological diagnosticians of gastric and duodenal disease in the world. His mental picture of gastric cancer, for example, was derived, not from drawings, photo-

graphs, or lantern slides, but from its varied roentgenological images, its appearance when the abdomen was opened, its gross aspects after removal, and its histological structure as revealed by the microscope, all of which he synthesized into a coherent and practical conception of the disease.

Roentgenologists know, but sometimes fail to remember, that cancer may take the form of a frank tumor, an infiltration, or an ulcer without evident tumefaction. They know, also, that cancers are not always extensive when discovered, being often demonstrable when they are exceedingly small. They know, further, that although cancer is more frequent in certain segments of the stomach than in others, it may affect any part of the viscus. It is true, however, that most cancers are well advanced when their presence is first recognized, and that, as cancer is essentially a neoplasm, hyperplasia with the production of a tumor is a primary trait. It must be borne in mind, however, that ulceration is scarcely less common than tumefaction. The examiner is therefore obliged constantly to remind himself that cancers range with intermediate gradations from tumors to ulcers and therefore may imitate any of the benign lesions.

For the demonstration of these morbid anatomical changes the roentgen examination must be methodical and thorough. It must be roentgenoscopic to permit observation at many angles and the manipulations that are indispensable. Care must be taken to make sure that the stomach is empty. Complete relaxation of the abdomen is of importance for successful palpatory investigation. Most important of all is adequate portrayal of the mucosal relief. Therefore, at the beginning of the examination the patient should take only one or two swallows of the barium suspension, this should be distributed over the mucosa by manipulation, and the stomach should not be filled until the internal relief has been inspected carefully.

Common to both advanced medullary and scirrhous cancer are certain physical signs and secondary phenomena. When the disease affects the antral or middle segments of the stomach, both of which are usually accessible to palpation, a mass corresponding to the visible defect or deformity can be felt unless the neoplasm is exceedingly small. Palpability of a gastric tumor is always strongly suggestive of malignancy. With rare exceptions, peristalsis is absent in the region of the affected segment. This finding is of confirmatory and differential value. Moderately obstructive cancer of the prepyloric segment may give rise to hyperperistalsis or antiperistalsis of the uninvaded portion of the stomach, but either manifestation is uncommon. In non-obstructive cancer the peristalsis of unaffected portions of the gastric wall is ordinarily less marked than the peristalsis of the normal stomach. Almost without exception gastric motility is notably altered. In the absence of obstruction the pylorus is commonly gaping, the barium suspension flows through it almost continuously, and the stomach is evacuated

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Sabadini L. Acute Generalized Primary Peritonitis Complicating Scarlet Fever (*Lapérionite aiguë généralisée primitive compliquant la névrose scarlatine*) *Pr act med* Par 1935 43 605

In spite of the frequency of lesions of the synovial membranes in scarlet fever primary involvement of the pleura meninges and peritoneum is comparatively rare. The author briefly reviews 19 cases of peritonitis complicating scarlet fever which he collected from the literature and reports a case of his own. The latter was the case of a boy fourteen years old who was stricken suddenly with acute abdominal pain accompanied by vomiting six days after he had been sent home from school with a sore throat. Twenty four hours after the onset of the pain he was admitted to the hospital with the symptoms typical of acute peritonitis. A diagnosis of generalized peritonitis, probably secondary to appendicitis, was made. When the abdomen was opened by a McBurney incision a considerable amount of odorless, yellow pus containing strings of fibrin was discovered. The appendix was found to be quite normal. The following morning a diagnosis of scarlet fever was made. Death occurred three days after the laparotomy.

With regard to the frequency of peritonitis complicating scarlet fever the author cites statistics from various clinics. Of 5500 cases of scarlet fever seen in the Willard Parker Hospital New York City in the period from 1918 to 1932 peritonitis occurred in only 3.

As patients with scarlet fever frequently complain of abdominal pain which is located particularly in the ileocecal region and soon ceases without further complications the author reviews only cases in which the presence of peritonitis was proved by operation or autopsy. In 13 cases in which a bacteriological examination was made streptococci were found. As there is no evidence to support the theory that the condition is more frequent in females than in males it is probable that the infection of the peritoneum occurs by way of the blood stream. In 7 of the cases reviewed by the author cultures of the blood were positive for the streptococcus. The youngest patient was seven months and the oldest thirty-one years old.

The peritonitis may come on during the eruptive stage of the scarlet fever during the stage of desquamation or later.

The symptoms do not differ from those of any other acute peritonitis. The chief symptoms are elevation of the temperature a rapid pulse and board like rigidity of the abdominal wall. Apparently the prognosis is better the later the onset.

Of the cases reviewed twelve were treated without operation, with death in ten and eight were treated surgically with death in four. Sabadini recommends operation as soon as the diagnosis is made. He states that the intervention should be limited if possible to simple drainage done preferably under local anesthesia. Removal of the appendix and exploration are hazardous. If a bacteriological examination of the pus cannot be made during the operation the character of the pus may be sufficient to establish the diagnosis. The pus is yellow and odorless and contains floating flakes of fibrin. Energetic medical treatment is also necessary as the prognosis is always extremely grave.

MAX W POOLE MD

GASTRO INTESTINAL TRACT

Kadrnka S. Roentgenological Observations of the Automatism of the Formation of Folds of the Mucous Membrane in the Digestive Tract (*Observations radiographiques de l'automatisme de la formation des plis muqueux du tube digestif*) *Acta radiol* 1935 10 311

The author reports observations made in the course of roentgen examinations which provide further support for the Forsell theory of the automatism of the formation of mucous membrane folds of the digestive tract. Both under ordinary circumstances and in experimental examinations a modification of the relief of the mucous membranes was observed during the pause between contractions of the muscle wall. At the time of minimal gastric smoothness the movements of the folds limited to the canal were observed by means of a thin layer of barium. General movements during a progressive extension of the walls were studied by means of the clausal barium filling and were found to affect chiefly the increase in the number of the folds. An increase in caliber was observed after the administration of egg yolk. Greater changes particularly the formation of the Forsell digestive pockets were observed during the digestion of meat. At the level of the colon the caliber of the folds increased under the influence of castor oil (the effect of correction) and decreased under the influence of a saline purgative (the effect of the withdrawal of water). The caliber and form of the folds varied according to whether the examination was made after oral or rectal administration of the purgative.

To explain the roentgenographic picture it is necessary to distinguish functional changes in the relief from changes caused by an injurious influence. Functional changes may be produced by various factors related to the examination as well as by factors not related to the examination. Among these are the temperature of the substance administered.

the presence of digestive juice on the mucous membrane surface (oral or rectal administration), the state of the intestine due to the previous administration of various purgatives or liquid enemas, and the composition of the contrast material. It is necessary to take into consideration also the technique used to render the folds visible and whether or not the examination was carried out during the course of medical treatment.

Christiansen, T.: Uremia as a Cause of Death in Massive Hemorrhage from Peptic Ulcer. *Acta med Scand*, 1935, 85 333

In 286 cases of peptic ulcer complicated by massive hemorrhage which were treated during the decade from 1923 to 1932 there were 23 deaths. Two of the fatal cases were of no particular interest because the deaths were not directly associated with the hemorrhage. In 3 of the others, death was caused by perforation with peritonitis. In 12 of the 16 cases coming to autopsy, erosion of a fairly large artery was found. Of interest was the fact that death occurred on an average of thirteen and a half days after the patient's admission to the hospital. The earliest death occurred on the third day, and the latest on the thirtieth day. As it is hardly possible for a patient to live more than a few hours with continual arterial hemorrhage, it may be concluded that the bleeding stopped some time before death and that "the hemorrhage cannot have been the cause of death in the more strict sense of the term."

After the elimination of complicating and concurrent infections there still remained a rather large group of fatal cases in which the cause of death was obscure. Detailed study of 2 cases of this group showed no urinary excretion of sodium chloride, a marked increase in the blood urea, and clinical improvement following the administration of large amounts of physiological salt solution. The patients were not vomiting. One of them died. In the case of this patient autopsy revealed no active process or blood-vessel erosion and no sign of degeneration or inflammatory renal processes. Christiansen therefore advances the theory that the hyperazotemia presented by these patients was a sign of an intoxication resulting from the absorption of toxic substances formed by bacterial decomposition of blood stagnated in the intestinal tract, and aggravated by demineralization from excessive flushings of the organism by water. SAMUEL J. FOGELSON, M.D.

Kirklin, B. R.: Some Phases of the Roentgenological Diagnosis of Gastric Cancer. *Radiology*, 1935, 24 672

When Carman came to Rochester, Minnesota, in 1913 he knew relatively little about gastro-intestinal roentgenology. When he walked out of the screen room for the last time, nine years ago, he was undoubtedly one of the ablest roentgenological diagnosticians of gastric and duodenal disease in the world. His mental picture of gastric cancer, for example, was derived, not from drawings, photo-

graphs, or lantern slides, but from its varied roentgenological images, its appearance when the abdomen was opened, its gross aspects after removal, and its histological structure as revealed by the microscope, all of which he synthesized into a coherent and practical conception of the disease.

Roentgenologists know, but sometimes fail to remember, that cancer may take the form of a frank tumor, an infiltration, or an ulcer without evident tumefaction. They know, also, that cancers are not always extensive when discovered, being often demonstrable when they are exceedingly small. They know, further, that although cancer is more frequent in certain segments of the stomach than in others, it may affect any part of the viscus. It is true, however, that most cancers are well advanced when their presence is first recognized, and that, as cancer is essentially a neoplasm, hyperplasia with the production of a tumor is a primary trait. It must be borne in mind, however, that ulceration is scarcely less common than tumefaction. The examiner is therefore obliged constantly to remind himself that cancers range with intermediate gradations from tumors to ulcers and therefore may imitate any of the benign lesions.

For the demonstration of these morbid anatomical changes the roentgen examination must be methodical and thorough. It must be roentgenoscopic to permit observation at many angles and the manipulations that are indispensable. Care must be taken to make sure that the stomach is empty. Complete relaxation of the abdomen is of importance for successful palpatory investigation. Most important of all is adequate portrayal of the mucosal relief. Therefore, at the beginning of the examination the patient should take only one or two swallows of the barium suspension, this should be distributed over the mucosa by manipulation, and the stomach should not be filled until the internal relief has been inspected carefully.

Common to both advanced medullary and scirrhous cancer are certain physical signs and secondary phenomena. When the disease affects the antral or middle segments of the stomach, both of which are usually accessible to palpation, a mass corresponding to the visible defect or deformity can be felt unless the neoplasm is exceedingly small. Palpability of a gastric tumor is always strongly suggestive of malignancy. With rare exceptions, peristalsis is absent in the region of the affected segment. This finding is of confirmatory and differential value. Moderately obstructive cancer of the prepyloric segment may give rise to hyperperistalsis or antiperistalsis of the uninvaded portion of the stomach, but either manifestation is uncommon. In non-obstructive cancer the peristalsis of unaffected portions of the gastric wall is ordinarily less marked than the peristalsis of the normal stomach. Almost without exception gastric motility is notably altered. In the absence of obstruction the pylorus is commonly gaping, the barium suspension flows through it almost continuously, and the stomach is evacuated

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Sabadini, I. Acute Generalized Primary Peritonitis Complicating Scarlet Fever (La péritonite aiguë généralisée primitive compliquant la fièvre scarlatine) *Presse méd. Par.* 1935 43 603

In spite of the frequency of lesions of the synovial membranes in scarlet fever primary involvement of the pleura, meninges and peritoneum is comparatively rare. The author briefly reviews 19 cases of peritonitis complicating scarlet fever which he collected from the literature and reports a case of his own. The latter was the case of a boy fourteen years old who was stricken suddenly with acute abdominal pain accompanied by vomiting six days after he had been sent home from school with a sore throat. Twenty-four hours after the onset of the pain he was admitted to the hospital with the symptoms typical of acute peritonitis. A diagnosis of generalized peritonitis probably secondary to appendicitis was made. When the abdomen was opened by a McBurney incision a considerable amount of odorless yellow pus containing strings of fibrin was discovered. The appendix was found to be quite normal. The following morning a diagnosis of scarlet fever was made. Death occurred three days after the laparotomy.

With regard to the frequency of peritonitis complicating scarlet fever the author cites statistics from various clinics. Of 550 cases of scarlet fever seen in the Willard Parker Hospital, New York City, in the period from 1918 to 1932 peritonitis occurred in only 3.

As patients with scarlet fever frequently complain of abdominal pain which is located particularly in the iliocecal region and soon ceases without further complications the author reviews only cases in which the presence of peritonitis was proved by operation or autopsy. In 13 cases in which a bacteriological examination was made streptococci were found. As there is no evidence to support the theory that the condition is more frequent in females than in males it is probable that the infection of the peritoneum occurs by way of the blood stream. In 7 of the cases reviewed by the author cultures of the blood were positive for the streptococcus. The youngest patient was seven months and the oldest thirty-one years old.

The peritonitis may come on during the eruptive stage of the scarlet fever during the stage of desquamation or later.

The symptoms do not differ from those of any other acute peritonitis. The chief symptoms are elevation of the temperature, a rapid pulse and board-like rigidity of the abdominal wall. Apparently the prognosis is better the later the onset.

Of the cases reviewed twelve were treated without operation, with death in ten and eight were treated surgically, with death in four. Sabadini recommends operation as soon as the diagnosis is made. He states that the intervention should be limited if possible to simple drainage done preferably under local anesthesia. Removal of the appendix and exploration are hazardous. If a bacteriological examination of the pus cannot be made during the operation the character of the pus may be sufficient to establish the diagnosis. The pus is yellow and odorless and contains floating flakes of fibrin. Energetic medical treatment is also necessary as the prognosis is always extremely grave.

MASH W. FOOTE, M.D.

GASTRO INTESTINAL TRACT

Kadrnka, S. Roentgenological Observations of the Automatism of the Formation of Folds of the Mucous Membrane in the Digestive Tract (Observations radiologiques de l'automatisme de la formation des plis muqueux du tube digestif) *Acta radiol.* 1933 16 311

The author reports observations made in the course of roentgen examinations which provide further support for the Forsell theory of the automatism of the formation of mucous membrane folds of the digestive tract. Both under ordinary circumstances and in experimental examinations a modification of the relief of the mucous membranes was observed during the pause between contractions of the muscle wall. At the time of minimal gastric smoothness the movements of the folds limited to the canal were observed by means of a thin layer of barium. General movements during a progressive extension of the walls were studied by means of the classical barium filling and were found to affect chiefly the increase in the number of the fold. An increase in caliber was observed after the administration of egg yolk. Greater changes, particularly the formation of the Forsell digestive pockets were observed during the digestion of meat. At the level of the colon the caliber of the folds increased under the influence of castor oil (the effect of congestion) and decreased under the influence of a saline purgative (the effect of the withdrawal of water). The caliber and form of the folds varied according to whether the examination was made after oral or rectal administration of the purgative.

To explain the roentgenographic picture it is necessary to distinguish functional changes in the relief from changes caused by an injurious influence. Functional changes may be produced by various factors related to the examination as well as by factors not related to the examination. Among these are the temperature of the substance administered.

the presence of digestive juice on the mucous membrane surface (oral or rectal administration), the state of the intestine due to the previous administration of various purgatives or liquid enemas, and the composition of the contrast material. It is necessary to take into consideration also the technique used to render the folds visible and whether or not the examination was carried out during the course of medical treatment

Christiansen, T.: Uremia as a Cause of Death in Massive Hemorrhage from Peptic Ulcer. *Acta med. Scand.*, 1935, 85 333

In 286 cases of peptic ulcer complicated by massive hemorrhage which were treated during the decade from 1923 to 1932 there were 23 deaths. Two of the fatal cases were of no particular interest because the deaths were not directly associated with the hemorrhage. In 3 of the others, death was caused by perforation with peritonitis. In 12 of the 16 cases coming to autopsy, erosion of a fairly large artery was found. Of interest was the fact that death occurred on an average of thirteen and a half days after the patient's admission to the hospital. The earliest death occurred on the third day, and the latest on the thirtieth day. As it is hardly possible for a patient to live more than a few hours with continual arterial hemorrhage, it may be concluded that the bleeding stopped some time before death and that "the hemorrhage cannot have been the cause of death in the more strict sense of the term."

After the elimination of complicating and concurrent infections there still remained a rather large group of fatal cases in which the cause of death was obscure. Detailed study of 2 cases of this group showed no urinary excretion of sodium chloride, a marked increase in the blood urea, and clinical improvement following the administration of large amounts of physiological salt solution. The patients were not vomiting. One of them died. In the case of this patient autopsy revealed no active process or blood-vessel erosion and no sign of degeneration or inflammatory renal processes. Christiansen therefore advances the theory that the hyperazotemia presented by these patients was a sign of an intoxication resulting from the absorption of toxic substances formed by bacterial decomposition of blood stagnated in the intestinal tract, and aggravated by demineralization from excessive flushings of the organism by water. SAMUEL J. FOGELSON, M.D.

Kirklin, B. R.: Some Phases of the Roentgenological Diagnosis of Gastric Cancer. *Radiology*, 1935, 24 672

When Carman came to Rochester, Minnesota, in 1913 he knew relatively little about gastro-intestinal roentgenology. When he walked out of the screen room for the last time, nine years ago, he was undoubtedly one of the ablest roentgenological diagnosticians of gastric and duodenal disease in the world. His mental picture of gastric cancer, for example, was derived, not from drawings, photo-

graphs, or lantern slides, but from its varied roentgenological images, its appearance when the abdomen was opened, its gross aspects after removal, and its histological structure as revealed by the microscope, all of which he synthesized into a coherent and practical conception of the disease.

Roentgenologists know, but sometimes fail to remember, that cancer may take the form of a frank tumor, an infiltration, or an ulcer without evident tumefaction. They know, also, that cancers are not always extensive when discovered, being often demonstrable when they are exceedingly small. They know, further, that although cancer is more frequent in certain segments of the stomach than in others, it may affect any part of the viscus. It is true, however, that most cancers are well advanced when their presence is first recognized, and that, as cancer is essentially a neoplasm, hyperplasia with the production of a tumor is a primary trait. It must be borne in mind, however, that ulceration is scarcely less common than tumefaction. The examiner is therefore obliged constantly to remind himself that cancers range with intermediate gradations from tumors to ulcers and therefore may imitate any of the benign lesions.

For the demonstration of these morbid anatomical changes the roentgen examination must be methodical and thorough. It must be roentgenoscopic to permit observation at many angles and the manipulations that are indispensable. Care must be taken to make sure that the stomach is empty. Complete relaxation of the abdomen is of importance for successful palpatory investigation. Most important of all is adequate portrayal of the mucosal relief. Therefore, at the beginning of the examination the patient should take only one or two swallows of the barium suspension, this should be distributed over the mucosa by manipulation, and the stomach should not be filled until the internal relief has been inspected carefully.

Common to both advanced medullary and scirrhous cancer are certain physical signs and secondary phenomena. When the disease affects the antral or middle segments of the stomach, both of which are usually accessible to palpation, a mass corresponding to the visible defect or deformity can be felt unless the neoplasm is exceedingly small. Palpability of a gastric tumor is always strongly suggestive of malignancy. With rare exceptions, peristalsis is absent in the region of the affected segment. This finding is of confirmatory and differential value. Moderately obstructive cancer of the prepyloric segment may give rise to hyperperistalsis or antiperistalsis of the uninvaded portion of the stomach, but either manifestation is uncommon. In non-obstructive cancer the peristalsis of unaffected portions of the gastric wall is ordinarily less marked than the peristalsis of the normal stomach. Almost without exception gastric motility is notably altered. In the absence of obstruction the pylorus is commonly gaping, the barium suspension flows through it almost continuously, and the stomach is evacuated

in much less than the normal time. The hypermotility is sometimes attributable in part to stiffening of the pyloric muscle by infiltration but the concomitant achylia is doubtless the principal causative factor. Obstruction occurs in from 50 to 60 per cent of cases and is evidenced by a residue from the six hour meal or by scant evacuation during the examination.

The first task of the examiner is to determine that the shadow defects deformities, and secondary manifestations observed are due to gastric disease rather than to other causes. Among the latter are food or foreign bodies in the stomach pressure by the spine ascites, gas and fecal material in the colon strong retraction of the abdominal wall extrinsic tumors and spasm. The simulants of cancer such as the bezoars (balls of hair persimmon seeds) have striking features that are practically diagnostic. Tumors of structures adjacent to the stomach deform the gastric lumen by pressure and as they are usually palpable may readily be mistaken for cancer. In cases of suspected reflex gastrosphincter spasm the test of administering tincture of belladonna to full physiological effect as recommended by Carman is still often used at the clinic.

The shadow deformity produced by cancer is persistent as to site and configuration obliterates the rugal markings is not altered by manipulation withstands antispasmodics and remains unchanged at re-examination. When the presence of a lesion has been demonstrated with certainty it is necessary to differentiate cancer from benign new growths gastric syphilis diaphragmatic hernia and sarcoma. In most cases benign neoplasms are relatively small pedunculated and multiple but not numerous. They usually produce ovoid central shadow defects and can often be shifted to some extent by manipulation. They rarely alter the general contour of the stomach are not often palpable and seldom inhibit peristaltic contraction at their sites of attachment.

The occurrence of gastric syphilis cannot be doubted but the incidence of the condition is perhaps more often exaggerated than minimized. At the clinic fewer than 100 cases of what was believed to be gastric syphilis have been encountered. In most of these cases the diagnosis was based on clinical serological and roentgenological data and the effect of antisyphilitic therapy. In only a minority was this evidence supplemented by microscopic examination of tissue excised from the lesion.

Hernia of the stomach through the diaphragm usually of the cardia through a breach in the left arch of the diaphragm or through the esophageal hiatus, is often mistaken for cancer. In both conditions the cardiac segment is grossly distorted and the esophagus is more or less obstructed. However in hernia the cardiac dome is demonstrably above the line of the diaphragmatic arch and the upper level of the opaque meal is above that of the esophageal aperture whereas in cancer the dome is below the arch and the level of the opaque meal coincides with that of the esophageal opening.

On the whole the differentiation of advanced cancer from other diseases or the simulants of diseases is not often difficult provided the examiner is alert in observation and logical in judgment. Small and presumably early cancers are less easy to discern and identify.

Four varieties of early cancer may be considered: (1) small malignant tumors or infiltration without deep ulceration (2) early prepyloric cancers (3) small ulcerating cancers and (4) malignant ulcers. Small pedunculated medullary cancers without marked ulceration are encountered occasionally. As they are relatively small and often pedunculated they are likely to be mistaken for benign growths. Early infiltrating scirrhous cancer of limited extent is exceedingly difficult to disclose as it seldom produces an obvious marginal defect. Early cancer of any variety in the cardia may elude discovery unless this region is inspected carefully. Retardation of the flow of barium from the esophagus diversion of the barium stream by a small tumor and deformity of the normally smooth and symmetrical gas bubble will be found in most cases. Early prepyloric cancers are perplexing as the antral narrowing they produce may be similar to the narrowing caused by hypertrophy of the rugae, benign ulcer with spasm, syphilis and hypertrophy of the pyloric muscle. If a niche is demonstrable the lesion is certainly an ulcer but even then the examiner cannot be certain that it is not malignant. In 1921 Carman noted that in ulcerating carcinomas on the lesser curvature the barium filled niche could be separated by manual pressure from the shadow of the stomach and that it assumed the form of a biconcave or concave convex lens as seen edgewise. If the lesion was on the posterior wall the niche could be disclosed by pressure as a disk like shadow surrounded by a transradiant halo. The shape and appearance of the niche led Carman to designate the phenomenon as the meniscus sign. He regarded it as a reliable sign of ulcerating cancer.

It has long been accepted that when the diameter of the crater is 3 cm or more an ulcer is probably but not invariably malignant. When the ulcer is smaller than this other indications of malignancy must be considered. Among these are irregularity of the niche obliteration of neighboring rugae absence of gastrosphincter or upward curling of the antrum the lack of tenderness on localized pressure over the niche. Ulcers on the greater curvature are usually but not always malignant. Ulcers on the posterior wall or near the pylorus are more likely to be malignant than those on or near the mid section of the lesser curvature. On the other hand most niche ulcers are benign usually the niche is dense regular in form situated in the midst of converging rugae and sensitive to pressure and spasm. Accompaniments are common. Occasionally however an ulcer which seems almost certainly to be benign is proved on section to be malignant.

The author emphasizes the points of distinction between cancer and benign lesions because accuracy

in their differential diagnosis is especially desirable. Nevertheless, in the interests of the patient, the examiner should be rather skeptical as to the benignancy of any tumor or ulcer of the stomach. Three-fourths of all gastric lesions exposed on the operating tables of the Clinic are found to be malignant. Unless the roentgenologist can affirm confidently that a lesion is benign, he should not return this diagnosis without qualification.

At least 50 per cent of gastric cancers are inoperable when discovered. That they are so often inoperable is due primarily to the fact that early cancer, unless obstructive, often gives rise to few and only petty symptoms or none at all and the patient therefore does not seek medical aid. The only way by which such cancers can be revealed is by periodic health examinations, including roentgenological investigation of the stomachs of all adults.

Hunt, V. C.: Operability of Carcinoma of the Stomach. *Ann Surg*, 1935, 101: 1200

According to data received from the American Society for the Control of Cancer for the year 1930 for the continental registration area, including the District of Columbia but not including Texas, there were 115,265 deaths from cancer. Of these, 25,408 (22 per cent) were due to cancer of the stomach and duodenum.

Billroth performed the first gastric resection for cancer of the stomach in 1881. Since that time, partial gastrectomy has become well-established in the treatment of operable malignant disease of the stomach. The various methods of restoring the continuity of the gastro-intestinal tract advocated by Kocher, Polya, Balfour, and others are not radical departures from the original Billroth I procedure in which, following gastric resection, the stomach and duodenum are united directly. In the Billroth II procedure the ends of the stomach and duodenum are closed after the resection and continuity is established by posterior gastrojejunostomy. Today, the Billroth I and II procedures remain the methods of choice following resections of the pyloric third of the stomach. The Polya method is applicable in gastric resection above the pyloric third of the stomach when the stomach or duodenum are not readily united or posterior gastrojejunostomy is not readily accomplished.

With the advent and perfection of roentgenological diagnosis of lesions of the gastro-intestinal tract, the diagnosis of carcinoma of the stomach has reached a high degree of accuracy. Nevertheless, the operability of malignant gastric lesions remains very low. The most able clinicians still find it extremely difficult to make an early diagnosis of carcinoma of the stomach, chiefly because early signs and symptoms are entirely lacking or insignificant. Except in cases of cancer encroaching on the cardia or pylorus, the symptoms may be very few even when the lesion is advanced. A lesion situated at the cardia precludes removal even in an early stage of the disease, while the lesion is still intrinsic. Gatewood

states that 14.4 per cent of carcinomas of the stomach are situated at the cardia. Frequently clinical evidences of inoperability are observed at the initial examination. A palpable, firm, fixed sentinel gland in the left supraclavicular region, infiltration of the umbilicus, a firm, nodular rectal shelf, a hard nodular liver, and associated jaundice with or without ascites denote inoperability. On the basis of these criteria, cancer of the stomach is clinically inoperable in more than 50 per cent of cases.

In 149 cases of carcinoma of the stomach operated upon by the author in the past ten years, the incidence of operability in terms of resection was found by exploration to be 36.2 per cent. Operability in terms of curative resection or partial gastrectomy has varied from 4.8 to 33 per cent. In recent years operability in terms of resection has materially increased. The mortality of resection has also increased materially with the increasing frequency of resection. Persson reported an increase in the mortality of resection from 25 to 38 per cent during the two decades from 1906 to 1926. In 1930, Gatewood reported a mortality of 32 per cent in cases treated by resection. In 1932, he stated that the mortality had been reduced to about 18 per cent. In 1932, Balfour reported a remarkable series of 200 cases in which partial gastrectomy was done with only 10 deaths in the hospital. The factors of most importance in the lowering of the mortality have been the newer methods of improving the general condition of the patient prior to surgical exploration, repeated gastric lavage in cases with retention, the administration of glucose and physiological saline solution to combat dehydration and restore the normal balance of the blood chemistry, and pre-operative blood transfusion. Experience has demonstrated that partial gastrectomy for malignant disease can be accomplished with a mortality not exceeding 10 per cent. The mortality of gastric resections above the pyloric half or two-thirds of the stomach is higher. In a number of cases in which the disease was found on exploration to be limited to the stomach total gastrectomy has been performed. The mortality of this procedure will always be high, but at times the risk is entirely justifiable.

Gastro-enterostomy has frequently been performed as a palliative procedure in the treatment of cancer of the stomach. Gatewood reported that all of his patients subjected to it were dead and the average length of life of those surviving the operation was less than nine months or only a little more than two months longer than the survival of patients whose condition was found on exploration to be unfavorable for operative procedures and who were therefore not treated surgically. Hence it appears that in many instances a palliative gastro-enterostomy merely prolongs the patients suffering. Uncertainty as to the nature of the gastric lesion may warrant a short-circuiting operation, especially if the mass, presumed at operation to be carcinoma, ultimately disappears.

It has been shown that, in the past, operability has not been great while the mortality in general has been relatively high. Recently there has been a tendency toward higher operability with a definite reduction of the mortality following gastric resection. In an analysis of 128 patients who lived ten years or more following operation Balfour stated that they represented about 20 per cent of the patients treated by resection. The curability of cancer of the stomach has been established. Partial gastrectomy offers the only possibility of cure. The future operability of cancer of the stomach can be increased only by earlier attention to minor gastro intestinal complaints in adults and thorough investigation of digestive disturbances by roentgenological examination. Adequate pre-operative preparation materially reduces the operative mortality in the cases of patients debilitated by gastric carcinoma. It appears probable that an increase in the curability of gastric cancer will be brought about by earlier diagnosis rather than by extension of operability by means of higher gastric resections or total gastrectomies. JOHN W. NICHOLS, M.D.

Gullichsen R. A Study of Intestinal Invagination Based on 234 Cases from 12 Hospitals in Finland (Etude sur l'invagination intestinale basée sur 234 cas provenant de douze hôpitaux en Finlande) *Acta chir Scand* 1935, 76 Supp. 35

The histories of the 234 cases on which this article is based are presented briefly. In his discussion the author considers particularly the geographic distribution of the condition, the reasons for its greater frequency in males than in females, the mechanism of its origin and its treatment. He states that there does not seem to be any racial predisposition to intestinal invagination and there is no good evidence that the condition is any less common in Finland than elsewhere. Of the patients whose cases are reviewed by him 79 per cent were less than two years

6 per cent were between two and fifteen years and 55 per cent were more than fifteen years of age. Gullichsen explains the small number of cases in young children in Finland by the assumption that the nature of the condition is often not recognized in the very young. According to the world literature more than 50 per cent of cases of intestinal invagination are those of young children.

Gullichsen finds that 73 per cent of adults developing intestinal invagination are males. In his opinion none of the theories advanced to explain this fact is tenable.

In the majority of cases particularly those of young children the invagination originates in the terminal ileum. This part of the intestine of the young child has a physiological predisposition to invagination on account of its structure and sensitivity. The increased peristalsis which is the immediate cause of the invagination may be produced by mechanical, toxic, thermal or nervous factors.

Röntgenoscopic examination and control of treatment is of great value. Aside from early diag-

nosis and treatment the skill of the surgeon is the factor of greatest importance in the prognosis. Disinvagination with manual replacement should be done when possible, but if it is difficult or complicated the invaginated part of the intestine should be resected. The patient's general condition may necessitate a palliative measure such as enterostomy or entero anastomosis.

The mortality of intestinal invagination in Finland since 1920 has been 30 per cent which is about the same as the mortality of the condition in other countries. AUDREY GOSS MORGAN, M.D.

Lucchese G. Changes in the Spleen in Experimental Intestinal Obstruction (Le alterazioni della milza nelle occlusioni intestinali sperimentali) *Clin. chir.* 1935 11 241

In three series of experiments on guinea pigs the author studied the changes occurring in the spleen after (1) acute obstruction in the midportion of the small bowel, (2) acute obstruction of the large bowel about 1 cm. from the cecum and (3) acute suppurative peritonitis from an open loop of small intestine.

In acute suppurative peritonitis the spleen was enlarged and soft (acute infectious splenic tumor). Histological examination showed an increase in the number of polymorphonuclear neutrophils, a limited endothelial reaction and almost always absence of megakaryocytic elements and hemosiderine pigment.

Following obstruction of the large or small bowel the spleen was enlarged but to a lesser degree than in acute suppurative peritonitis. Histologically it showed distention of the sinuses, proliferation of the endothelial elements, the formation of megakaryocytes and an abundance of intracellular and extracellular hemosiderine pigment. The author believes that these changes are due to the absorption of toxic substances from the obstructed bowel.

PETER A. ROSI, M.D.

Gordon Taylor G. A Successful Case of Septuple Bowel Resection and Sextuple Anastomosis with an Account of Some Personal Multiple and Complicated Intestinal Resections *New Zealand J. Surg.* 1935 4 345

Gordon Taylor reports a case in which a septuple resection and a sextuple anastomosis of intestine were done with a successful result.

The patient, a woman sixty-four years of age, had previously been subjected to enterostomy by a physician in a small country hospital who had intended to establish a colostomy. She became markedly emaciated and the intestinal opening very severely infected. After attempts to control the infection which were continued for several weeks had proved unsuccessful, exploration was decided upon because the patient was rapidly growing weaker. It revealed the intestinal opening in the small bowel and a conglomerate mass of intestine attached to the involved loop. Excision of the whole

mass including the previously made artificial intestinal opening appeared advisable. The removal of the mass left twelve open bowel ends with which to deal. The removal of a short piece of small intestine reduced the number of open bowel ends by two. Three circular enterorrhaphies of small bowel and two end-to-end anastomoses of the large intestine were therefore performed. The mass contained no neoplastic tissue. At a later exploration an annular carcinoma of the pelvic colon was found and removed by the Paul-Mikulicz technique. The closure of the bowel was classed as the sixth anastomosis.

Gordon-Taylor reports also his experiences with multiple and complex resection of the alimentary canal in cases of (1) malignant disease, (2) severe involvement of the bowel in pelvic disease, (3) tuberculosis of the intestine, (4) non-tuberculous infective granuloma of the intestines, (5) acute intestinal obstruction, (6) gunshot wounds, (7) anastomotic ulcers, (8) restorative resections, (9) recurrent resections. Thirty-eight cases are reported. He estimates the total number of years added to the lives of twenty-three patients with complicated cancers at nearly one hundred years.

The article contains many drawings and seven full-page illustrations in color. EARL GARSIDE, M.D.

Sussman, M. L.: Inflammation of the Descending Portion of the Duodenum. *Radiology*, 1935, 24: 691

Sussman reports a study of eight cases in which the diagnosis of an inflammatory lesion of the descending portion of the duodenum was made by roentgen examination. He emphasizes that duodenal inflammatory lesions occur distal to the duodenal bulb, particularly in the portion between the knee and the papilla major. The clinical symptoms are much like those of duodenal ulcer, but the duodenal bulb shows little or no change roentgenologically and a lesion in the descending portion of the duodenum is either overlooked or difficult to demonstrate. Any study of the descending duodenum is based upon very limited pathological material. In two of the author's cases operation was performed, but the information obtained was not very satisfactory.

The outstanding features were a relatively slight to marked narrowing of the lumen of the duodenum between the upper knee and the papilla major, marked irritability, irregularity in outline or unusual smoothness, and a marked disturbance in the longitudinal mucosal folds such that these folds had disappeared or were irregular in their distribution as demonstrated by the compression technique. In all of the author's eight cases a Graham test was made. The gall bladder filled and emptied normally, and no calculi were seen. In none of the cases was there a history of jaundice or biliary colic.

The differentiation of duodenitis from periduodenitis is difficult. It is stated by some that adhesions may produce marked deformity of the duodenal outline together with a more or less uniform

narrowing of the lumen. Primary duodenal neoplasms are extremely rare. In the presence of a tumor the duodenal curve may be widened, whereas in the presence of stenosis the lumen is more irregular and the contour appears worm eaten.

Clinically, inflammation of the descending duodenum is much like duodenal ulcer and may be indistinguishable from it. However, in ulcer the pain is regular whereas in inflammation it is apt to be irregular in time and intensity. In several of the cases reviewed there was nocturnal pain. Attacks of nausea and vomiting are relatively frequent in inflammation of the descending portion of the duodenum. Between the attacks the patient is relatively well. Hemorrhage may be a frequent finding. It usually occurs in the form of melena. As a rule there is marked and prolonged hyperacidity, the clinical picture then suggesting peptic ulcer.

During recent years interest in duodenitis has been increasing. Judd and Nagel define this condition as a chronic inflammation of the duodenum without calloused ulcers. They differentiate duodenal ulcer and duodenitis pathologically as follows:

In duodenal ulcer, the wall of the bowel is indurated, and, with slow perforation of the ulcer, a tumor may form as the result of the defensive reaction of the surrounding tissues. When the bowel is opened the ulcer crater is seen. In duodenitis or submucous ulcer, examination reveals hyperemia and stippling of the serosa with little or no induration. There are no lesions of the mucosa or, at most, only small superficial abrasions. There is often a tendency toward circular constriction of the bowel, but it is frequently doubtful whether this is due to spasm or is a true narrowing.

Balfour states that inflammatory lesions of the duodenum are practically confined to the first 2 cm beyond the pylorus; that lesions seldom extend distally into the first portion of the duodenum, i.e., distal to the bulb and still more rarely involve the ampulla of Vater, and that inflammatory lesions beyond this point are almost unknown.

The contributions of Duval, Roux, and Beclere indicate that the diagnosis of duodenitis cannot be made on the basis of the clinical and roentgenological findings alone. The etiology and pathogenesis of duodenitis are still disputed as is the relationship of the condition to gastritis in peptic ulcer. Konjetzny and others suggest that duodenitis is the precursor of duodenal ulcer.

In conclusion the author urges a careful study of the descending portion of the duodenum of normal persons and of persons with a history suggesting ulcer in whom no lesion is demonstrable in the stomach or duodenal bulb. JOHN W. NUTZUM, M.D.

Placeo, F., and Stoppani, F.: Cecoplication (La cecoplicatio). *Clin. chir.*, 1935, 11: 323

The authors report twelve cases of atonic cecum diagnosed roentgenologically in which cecoplication was performed. They conclude that cecoplication does not alter the anatomy of the ileocecal region.

It has been shown that, in the past operability has not been great while the mortality in general has been relatively high. Recently there has been a tendency toward higher operability with a definite reduction of the mortality following gastric resection. In an analysis of 128 patients who lived ten years or more following operation Balfour stated that they represented about 20 per cent of the patients treated by resection. The curability of cancer of the stomach has been established. Partial gastrectomy offers the only possibility of cure. The future operability of cancer of the stomach can be increased only by earlier attention to minor gastro-intestinal complaints in adults and thorough investigation of digestive disturbances by roentgenological examination. Adequate pre-operative preparation materially reduces the operative mortality in the cases of patients debilitated by gastric carcinoma. It appears probable that an increase in the curability of gastric cancer will be brought about by earlier diagnosis rather than by extension of operability by means of higher gastric resections or total gastrectomies.

JOHN W. NIXON, M.D.

Gullikhsen R. A Study of Intestinal Invagination Based on 234 Cases from 12 Hospitals in Finland (*Etude sur l'invagination intestinale basée sur 234 cas provenant de douze hôpitaux en Finlande*). *Acta chir Scand* 1935, 70 Supp 35.

The histories of the 234 cases on which this article is based are presented briefly. In his discussion the author considers particularly the geographic distribution of the condition, the reasons for its greater frequency in males than in females, the mechanism of its origin and its treatment. He states that there does not seem to be any racial predisposition to intestinal invagination and there is no good evidence that the condition is any less common in Finland than elsewhere. Of the patients whose cases are reviewed by him 10 per cent were less than two years, 26 per cent were between two and fifteen years and 55 per cent were more than fifteen years of age. Gullikhsen explains the small number of cases in young children in Finland by the assumption that the nature of the condition is often not recognized in the very young. According to the world literature more than 50 per cent of cases of intestinal invagination are those of young children.

Gullikhsen finds that 73 per cent of adults developing intestinal invagination are males. In his opinion none of the theories advanced to explain this fact is tenable.

In the majority of cases particularly those of young children the invagination originates in the terminal ileum. This part of the intestine of the young child has a physiological preposition to invagination on account of its structure and sensitivity. The increased peristalsis which is the immediate cause of the invagination may be produced by mechanical, toxic, thermal or nervous factors.

Roentgenoscopic examination and control of treatment is of great value. Aside from early diag-

no is and treatment the skill of the surgeon is the factor of greatest importance in the prognosis. Dilation with manual replacement should be done when possible, but if it is difficult or complicated the invaginated part of the intestine should be resected. The patient's general condition may necessitate a palliative measure such as entero-entery or entero-anastomosis.

The mortality of intestinal invagination in Finland since 1920 has been 39 per cent which is about the same as the mortality of the condition in other countries.

ANDREW GOSSE MORGAN, M.D.

Iucchesse G. Changes in the Spleen in Experimental Intestinal Obstruction (*Le alterazioni della milza nelle occlusioni intestinali sperimentali*). *Clin chir* 1935 11 241.

In three series of experiments on guinea pigs the author studied the changes occurring in the spleen after (1) acute obstruction in the midportion of the small bowel, (2) acute obstruction of the large bowel about 1 cm from the cecum and (3) acute suppurative peritonitis from an open loop of small intestine.

In acute suppurative peritonitis the spleen was enlarged and soft (acute infectious splenic tumor). Histological examination showed an increase in the number of polymorphonuclear neutrophils, a limited endothelial reaction and almost always absence of megakaryocytic elements and hemosiderin pigment.

Following obstruction of the large or small bowel the spleen was enlarged but to a lesser degree than in acute suppurative peritonitis. Histologically it showed distention of the sinuses, proliferation of the endothelial elements, the formation of megakaryocytes, and an abundance of intracellular and extracellular hemosiderin pigment. The author believes that these changes are due to the absorption of toxic substances from the obstructed bowel.

PETER A. ROST, M.D.

Gordon Taylor G. A Successful Case of Septuple Bowel Resection and Sextuple Anastomosis with an Account of Some Personal Multiple and Complicated Intestinal Resections. *Australian & New Zealand J Surg* 1935 4 345.

Gordon Taylor reports a case in which a septuple resection and a sextuple anastomosis of intestine were done with a successful result.

The patient, a woman sixty-four years of age, had previously been subjected to enterostomy by a physician in a small country hospital who had intended to establish a colostomy. She became markedly emaciated and the intestinal opening very severely infected. After attempts to control the infection which were continued for several weeks had proved unsuccessful exploration was decided upon because the patient was rapidly growing weaker. It revealed the intestinal opening in the small bowel and a conglomerate mass of intestine attached to the involved loop. Fixation of the whole

occasionally in kidney disease, it must be evaluated with caution when such conditions complicate the liver disease.

In cirrhosis of the liver, especially of the Laennec type, the test is positive unless the parenchyma is relatively intact. In tumors of the liver, the reaction depends upon the extensiveness of the growth and the amount of functioning liver tissue. Precipitation appears if from 75 to 80 per cent of the liver is involved.

The test is independent of bilirubin retention. It is negative in inflammations and obstructions of the biliary tract so long as the hepatic parenchyma is unimpaired. It is negative also in chronic passive congestion unless this condition is associated with cirrhosis or atrophy, and may be negative in cases of distinct amyloid or fatty liver.

It is of great prognostic value in hepatitis. Precipitation occurring at the onset of the disease presages a prolonged course of at least thirty days. A positive test indicates more severe parenchymatous damage than is usually suspected in this condition. The test is of value particularly because of its ability to differentiate between parenchymatous liver damage, especially hepatitis, and various types of obstructive jaundice. In this regard it surpasses all other available diagnostic measures. In hepatitis it is not always parallel with the galactose test. The two tests supplement one another, each indicating different partial functional disturbances.

LEO M. ZIMMERMAN, M.D.

Lenormant, C., and Calvet, J.: Large Non-Parasitic Cysts of the Liver (Les grands kystes non parasitaires du foie). *J. de chir.*, 1935, 45-715.

Solitary non-parasitic cysts of the liver are rare. Fewer than 100 cases have been reported. The authors present a tabular summary of 66 cases collected from the literature, refer in addition to 25 cases reported without detail by Mayo and Harrington, and bring up to date, the bibliography published in the *Annals of Surgery* by Jones in 1923.

They then report a case of their own, that of a woman forty-six years old who entered the hospital with an epigastric tumor. The patient had been well up until two years previously, when she began to have digestive disturbance and epigastric pain not related to the taking of food. She was treated by regulation of her diet and sent to a watering place for two seasons. During the second season the tumor developed. Examination on her admission to the hospital disclosed a tumor of the liver. Operation by marsupialization was followed by uneventful recovery.

The majority of non-parasitic cysts of the liver are cystadenomas with an epithelial lining which is generally made up of a single row of high cylindrical or cubical cells very similar to those of the epithelium of the hepatic ducts. Sometimes the epithelium is flattened and polyhedral, particularly in large cysts in which it seems to have been affected by intracystic pressure. These cysts are benign tumors

originating from abnormal proliferation of the intra-hepatic bile ducts. There are no very characteristic clinical symptoms except pain and the tumor itself which may be quite large and often fluctuating. The biological reactions for echinococcus cyst are negative. The tumor increases in size slowly and progressively. Like other gland cysts, it may be complicated by hemorrhage, rupture, torsion, or compression. It may simulate various other abdominal conditions. Even after the diagnosis of liver cyst has been made and operation has been begun it is necessary to rule out cysts due to dilatation of the extrahepatic bile ducts, lymphatic and blood cysts, and dermoid cysts, which are much rarer. The preferable treatment is total excision if there is a line of cleavage between the cyst and the liver parenchyma. If there is no line of cleavage and it is necessary to incise the liver parenchyma, the operation is difficult technically and there is danger of serious hemorrhage. Under such conditions marsupialization is to be preferred.

AUDREY GOSS MORGAN, M.D.

Moore, C.: Cholecystographic Diagnosis of Papillomas and Tumors of the Gall Bladder. *Am. J. Roentgenol.*, 1935, 33: 630.

Since the publications of Kirklin and Hefke demonstrating the possibility of visualizing tumors of the gall bladder by cholecystography, the author has made a careful search for tumor shadows in cholecystograms. He has been impressed with the necessity of obtaining cholecystograms showing greater detail and more views at different angles. He reports three cases in which tumor shadows were noted and a tumor was found at operation.

ADOLPH HARTUNG, M.D.

Henderson, F. F., and King, E. S. A.: Acute Pancreatitis. *Arch. Surg.*, 1935, 30: 1049.

The authors review the cases of sixty patients with acute pancreatitis who were treated surgically at the Boston City Hospital during the last fifteen years. They state that, in spite of much study, the results of treatment of this condition have not shown improvement to any degree comparable to that obtained in many other abdominal diseases. According to the literature, the mortality ranges between 40 and 80 per cent. In the cases reviewed it was 53.3 per cent. It was the lowest in those in which operation was performed between the second and sixth days.

It appears from this series, which, though small, is one of the largest to be reported, that acute pancreatitis is not as much of a surgical emergency as has been previously thought. The authors plan to be conservative in their treatment in the future and to delay operation to between the second and sixth days, choosing the time when the patient appears to have reached maximum recovery from the initial toxemia.

In the cases reviewed cholecystostomy plus drainage of the pancreas through the gastrohepatic

or gastrocolic omentum proved to be the safest operation and the use of nitrous oxide oxygen and ether anesthesia was followed by the lowest mortality.

H. W. FINE, M.D.

De Tarnowsky G. and Sarma P. J. The Surgical Treatment of Chronic Pancreatitis. *Ann Surg* 1935 101 1343

The authors analyzed thirty cases of chronic pancreatitis illustrating the extreme difficulty of making a positive pre-operative diagnosis. They state that in the case of a gland having such varied and all important functions as the pancreas it would be justifiable to assume *a priori* that the clinical manifestations of a pathological condition would be many and almost pathognomonic. Unfortunately however the only two striking clinical manifestations of chronic pancreatitis are fat necrosis and pancreatic hemorrhage both of which are present only in the most severe cases and demonstrable only at operation. With the exception of acute hemorrhagic pancreatitis and carcinoma of the head of the pancreas surgical intervention in cases of subacute or chronic pancreatitis has not claimed the attention which these dysfunctions demand. Symptoms, when present are often due to compression of organs.

Clinically pancreatic dysfunctions can be divided into the following three main groups: (1) disturbances of external secretion interfering with the digestive apparatus in the subacute or chronic types or producing autolysis in fulminating cases of pancreatic apoplexy; (2) disturbances of internal secretion leading to glycosuria; and (3) carcinoma of the head of the pancreas.

That chronic pancreatitis must be the result of repeated attacks of acute subsiding pancreatitis is evident. Retrograde infection of the pancreas through the lymphatics from the gall bladder, appendix or a duodenal ulcer is now regarded as extremely improbable. Pancreatic calculi gradually blocking one or both excretory ducts are so rare as to be surgical curiosities; only about 100 cases have been recorded to date. Hematogenous infection, though possibly explaining some of the fulminating cases of acute hemorrhagic pancreatitis can be rejected insofar as chronic pancreatitis is concerned.

Direct continuity is an occasional etiological factor. The authors have found and freed a fibrosis associated with marked dilatation of the duodenum which they believe contributed to the syndrome of chronic pancreatitis. They believe that repeated, subsiding attacks of pancreatitis is due in the vast majority of cases to the entrance of bile into the pancreatic duct or ducts and that as long as normal bile from the gall bladder is discharged through the common duct into the duodenum pancreatitis will not result. The work of Onie, Flexner, Archibald, Nordman, Cameron and Noble has shown that (1) bile plus gall bladder mucus does not irritate the pancreas; (2) pure liver bile (bile duct cyst) causes pancreatitis; and (3) infected bile (cholecystitis) causes pancreatitis.

The authors are of the opinion that chronic pancreatitis is the result of cholelithiasis with blockage of the cystic duct or of cholecystitis of sufficient severity to interfere with mucin formation or to destroy the gall bladder mucosa. Blockage of the ampulla of Vater will produce the same result if cholecystitis is present. Arteriosclerotic cysts or tumors of the pancreas, alcoholism, tuberculosis, syphilis, hemochromatosis and hepatic cirrhosis seem to be possible etiological factors.

Cholecystostomy with prolonged drainage is the operation of choice in chronic pancreatitis. Without wishing to enter into the age long controversy between the champions of routine cholecystectomy and the more conservative, perhaps more physiologically minded advocates of selective cholecystectomies the authors state that a gall bladder capable of functioning should never be removed if the head of the pancreas is enlarged, hardened or edematous.

For prolonged drainage a rubber drain is left in the gall bladder or cystic duct for from ten to fourteen days and the fistula is kept open from two to six weeks longer. In very chronic cases it may be necessary to continue the drainage for months.

HOWARD A. MCKNIGHT, M.D.

Whipple A. O. and Frantz V. K. Adenoma of Islet Cells with Hyperinsulinism. *Ann Surg* 1935 101 1297

The authors first refer briefly to a number of classical articles selected from the voluminous literature on the pancreas and trace the development of knowledge regarding the function of the different histological structures of that organ. The first case of tumor of the islet cells was reported by Nicholls in 1922. In 1922 Blanton discovered insulin and in standardizing the dosage of this substance observed the symptoms of hyperinsulinism. In 1923 Harris suggested spontaneous hyperinsulinism as a clinical possibility and in 1927 Wilder attributed hyperinsulinism to a pancreatic tumor. In later investigations an insulin like substance was found in pancreatic tumors.

In the literature the authors found seventy five cases of hyperinsulinism. In sixty two the condition was associated with a tumor. Most of the tumors were small (1.5 cm. in diameter) but one of them weighed 500 gm. The neoplasms are redish or pink usually found in the tail of the pancreas close under the capsule of the gland. They are usually grossly encapsulated but some of them are without a definite capsule. As in 3 of the cases reported in the literature metastases were found the tumors apparently include frank pancreatic carcinomas as well as benign adenomas.

The authors report eight tumors removed from six patients with hyperinsulinism. They classified these generally as adenomas. In three of the neoplasms an infiltrating tendency was noted. Functional activity of the tumor cells was proved by the fact that the patients no longer suffered from

hyperinsulinism after removal of the tumors. However, the authors were unable to extract an insulin-like substance from the growths.

The authors operate under spinal anesthesia. They make a transverse incision through both recti and divide the gastrocolic omentum widely. They then make a careful search for adenomas especially in the tail and body of the pancreas. If one such tumor is found they search for others. If no adenomas are found, they remove about two-thirds of the pancreas with the Percy cautery. Splenectomy and ligation of the splenic artery greatly reduce hemorrhage from small vessels. Drainage is advisable in partial pancreatectomy, but is not necessary in the removal of an adenoma.

G DANIEL DELPRAT, M D

Bernhard: The Surgery of Acute Pancreatic Diseases (Die Chirurgie der akuten Pankreaserkrankungen) *Zentralbl f Chir*, 1935, p 532

Bernhard regards it as more probable that pancreatic disease is caused by vascular spasms resulting from irritation of the pancreatic nerves, especially the vagus nerve, than by ascending activation due to the entrance of bile into the duct of Wirsung. On the basis of this theory, initial expectant treatment rather than early operation is to be considered. In this consideration it must be borne in mind that in 90 per cent of the cases the essential cause is in the biliary tract. The pathologico-anatomical classification of pancreatic diseases by Schmieden and Sebening into acute pancreatic edema with and without fat necrosis, hemorrhagic infarction, and pancreatic necrosis with foci of softening, sequestration, and abscess formation, is recommended.

In the clinical course of pancreatic diseases Bernhard recognizes three stages: (1) a stage of pain, in which there is acute pancreatic edema with or without fat necrosis, (2) an ileus-like stage, in which there is acute pancreatic edema with fat necrosis, hemorrhagic infarction, and pancreatic necrosis with areas of softening, and (3) a peritonitic stage, in which there is hemorrhagic infarction, etc. In addition, there are atypical forms which constitute the most frequent causes of obscure, acute abdominal disturbances.

With regard to diagnostic aids, the author states that there is no single, certain, and reliable sign of the presence of acute pancreatic disease, and that the diagnosis can be made with a satisfactory degree of certainty only by the use of all diagnostic measures. Determinations of the diastase in the blood and urine are uncertain, and the demonstration of pancreatic lipase in the blood by atoxyl resistance is technically very difficult. Sugar is found in the urine in 10 per cent of the cases. If 50 gm of glucose dissolved in $\frac{1}{4}$ liter of water is administered by mouth, alimentary glycosuria appears in 50 per cent of acute cases. A leucocytosis of 25,000 marks the boundary between mild and severe cases. An increase in the brick-dust sediment depends upon the degree of protein destruction. Urobilinogenuria is found always,

urobilinuria, frequently, and bilirubinuria, occasionally. Albumin often appears in the urine. Kidney damage increases the residual nitrogen and indican in the blood.

Bernhard favors immediate operation in (1) the peritonitic stage, if the abdominal rigidity does not subside after brief preliminary treatment, (2) the necrotic stage with severe jaundice, because a common-duct stone may prevent the flow of pancreatic juice, and (3) cases with abscess formation. He advises against early operation in: (1) mild cases, (2) the stages of pain and ileus; (3) the peritonitic stage with collapse and cardiac weakness, and (4) all cases with diminished urinary excretion and increased residual nitrogen. In cases in which operation is not done, maximal doses of morphine and atropine should be given at once. Fluids by mouth should be withheld, but a liberal amount of fluid should be given by parenteral methods. Before operation, heart stimulants, especially racedrin and ephetonin, should be administered to counteract the fall in the blood pressure. In general, the author tends toward expectant treatment whereby apparently better results are obtained than from early operation which has a mortality of 50 per cent.

(PLENZ) LEO M ZIMMERMAN, M D

MISCELLANEOUS

Short, A R: Abdominal Pain in Children. *Brit M J*, 1935, I 1157

From the standpoint of diagnosis, cases of abdominal pain in children may be divided into those with and those without diarrhea, and those of children under, and those of children over, the age of five years. The great majority of children with abdominal pain are suffering from some form of irritant poison, either chemical or bacterial. Among these must be included children who have been overeating or taking unsuitable articles of diet. In most cases the attack is brief, lasting only a day or two. In some cases, however, the pain is due to a more serious ailment such as tuberculous or pneumococcal peritonitis or the chronic diarrhea of children. Tuberculous peritonitis with diarrhea is usually accompanied by emaciation, swelling of the abdomen, and a slight irregular fever.

The most important condition to be borne in mind when a child under five years of age is seized with an acute attack of abdominal pain is intussusception, because twenty-four hours' delay in the diagnosis means death. When the passage of undeniable blood and mucus has occurred a mistake is scarcely apt to be made, but this sign may be delayed for many hours or the mother may give a confused history and have thrown away the evidence. However, even without the passage of blood and mucus, the diagnosis is generally possible. As in nearly 50 per cent of cases of intussusception the presence of the sausage-shaped tumor can be determined only under anesthesia, it may be well worth while in cases of doubt to give an anesthetic and palpate for such a

or gastroduodenal omentum proved to be the safest operation and the use of nitrous oxide oxygen and ether anesthesia was followed by the lowest mortality.

H. W. Fink M.D.

De Tarnowsky C. and Sarma P. J. The Surgical Treatment of Chronic Pancreatitis. *Ann Surg* 1935 101 1342

The authors analyzed thirty cases of chronic pancreatitis illustrating the extreme difficulty of making a positive pre-operative diagnosis. They state that in the case of a gland having such varied and all important functions as the pancreas it would be justifiable to assume *a priori* that the clinical manifestations of a pathological condition would be many and almost pathognomonic. Unfortunately however the only two striking clinical manifestations of chronic pancreatitis are fat necrosis and pancreatic hemorrhage both of which are present only in the most severe cases and demonstrable only at operation. With the exception of acute hemorrhagic pancreatitis and carcinoma of the head of the pancreas surgical intervention in cases of subacute or chronic pancreatitis has not claimed the attention which these dysfunctions demand. Symptoms when present are often due to compression of organs.

Clinically pancreatic dysfunctions can be divided into the following three main groups: (1) disturbances of external secretion interfering with the digestive apparatus in the subacute or chronic types or producing autolysis in fulminating cases of pancreatic apoplexy; (2) disturbances of internal secretion leading to glycosuria; and (3) carcinoma of the head of the pancreas.

That chronic pancreatitis must be the result of repeated attacks of acute subling pancreatitis is evident. Retrograde infection of the pancreas through the lymphatics from the gall bladder, appendix or a duodenal ulcer is now regarded as extremely improbable. Pancreatic calculi gradually blocking one or both excretory ducts are so rare as to be surgical curiosities; only about 100 cases have been recorded to date. Hematogenous infection though possibly explaining some of the fulminating cases of acute hemorrhagic pancreatitis can be rejected insofar as chronic pancreatitis is concerned.

Direct continuity is an occasional etiological factor. The authors have found and freed adhesions associating it with marked dilatation of the duodenum which they believed contributed to the syndrome of chronic pancreatitis. They believe that repeated subling attacks of pancreatitis are due in the vast majority of cases to the entrance of bile into the pancreatic duct or ducts and that as long as normal bile from the gall bladder is discharged the pancreas will remain healthy. The work of Ome, Hesper, Archibald, Nordman, Cameron and others has shown that: (1) bile plus gall bladder mucus does not in time cause pancreatitis; (2) pure liver bile mixed with pancreatic juice causes pancreatitis; and (3) infected bile (cholangitis) causes pancreatitis.

The authors are of the opinion that chronic pancreatitis is the result of cholelithiasis with blockage of the cystic duct or of cholecystitis of sufficient severity to interfere with mucin formation or to destroy the gall bladder mucosa. Blockage of the ampulla of Vater will produce the same result if cholecystitis is present. Arteriosclerosis, cysts or tumors of the pancreas, alcoholism, tuberculosis, syphilis, hemochromatosis and hepatic cirrhosis seem to be possible etiological factors.

Cholecystostomy with prolonged drainage is the operation of choice in chronic pancreatitis. With a wish to enter into the age long controversy between the champions of routine cholecystectomy and the more conservative perhaps more physiologically minded advocates of selective cholecystectomies the authors state that a gall bladder capable of functioning should never be removed if the head of the pancreas is enlarged hardened or edematous.

For prolonged drainage a rubber drain is left in the gall bladder or cystic duct for from ten to fifteen days and the fistula is kept open from four to six weeks longer. In very chronic cases it may be necessary to continue the drainage for months.

HOWARD A. McNICHAULT M.D.

Whipple A. O. and Frantz V. A.: Adenoma of Islet Cells with Hyperinsulinism. *Ann Surg* 1935 101 1279

The authors first refer briefly to a number of classical articles selected from the voluminous literature on the pancreas and trace the development of knowledge regarding the function of the different histological structures of that organ. The first case of tumor of the islet cells was reported by Minkowski in 1902. In 1907 Banting discovered insulin and in standardizing the dosage of this substance observed the symptoms of hyperinsulinism. In 1923 Harris suggested spontaneous hyperinsulinism as a clinical possibility and in 1927 Wilder attributed hyperinsulinism to a pancreatic tumor. In later investigations an insulin-like substance was found in pancreatic tumors.

In the literature the authors found seventy five cases of hyperinsulinism. In sixty two the condition was associated with a tumor. Most of the tumors were small (1.5 cm. in diameter) but one of them weighed 500 gm. The neoplasms are reddish and usually found in the tail of the pancreas, beneath the capsule of the gland. They are usually grossly encapsulated but some of them are without a definite capsule. As in 3 of the cases reported in the literature metastases were found the tumors apparently include frank pancreatic carcinomas as well as benign adenomas.

The authors report on eight tumors removed from six patients with hyperinsulinism. They classified three groups as adenomas. In three of the neoplasms an infiltrating tendency was noted. The clinical activity of the tumor cells was proved by the fact that the patients no longer suffered from

hyperinsulinism after removal of the tumors. However, the authors were unable to extract an insulin-like substance from the growths.

The authors operate under spinal anesthesia. They make a transverse incision through both recti and divide the gastrocolic omentum widely. They then make a careful search for adenomas especially in the tail and body of the pancreas. If one such tumor is found they search for others. If no adenomas are found, they remove about two-thirds of the pancreas with the Percy cautery. Splenectomy and ligation of the splenic artery greatly reduce hemorrhage from small vessels. Drainage is advisable in partial pancreatectomy, but is not necessary in the removal of an adenoma.

G. DANIEL DELPRAT, M.D.

Bernhard: The Surgery of Acute Pancreatic Diseases (*Die Chirurgie der akuten Pankreaserkrankungen*) *Zentralbl. f. Chir.*, 1935, p. 532.

Bernhard regards it as more probable that pancreatic disease is caused by vascular spasms resulting from irritation of the pancreatic nerves, especially the vagus nerve, than by ascending activation due to the entrance of bile into the duct of Wirsung. On the basis of this theory, initial expectant treatment rather than early operation is to be considered. In this consideration it must be borne in mind that in 90 per cent of the cases the essential cause is in the biliary tract. The pathologico-anatomical classification of pancreatic diseases by Schmieden and Sebening into acute pancreatic edema with and without fat necrosis, hemorrhagic infarction, and pancreatic necrosis with foci of softening, sequestration, and abscess formation, is recommended.

In the clinical course of pancreatic diseases Bernhard recognizes three stages: (1) a stage of pain, in which there is acute pancreatic edema with or without fat necrosis; (2) an ileus-like stage, in which there is acute pancreatic edema with fat necrosis, hemorrhagic infarction, and pancreatic necrosis with areas of softening; and (3) a peritonitic stage, in which there is hemorrhagic infarction, etc. In addition, there are atypical forms which constitute the most frequent causes of obscure, acute abdominal disturbances.

With regard to diagnostic aids, the author states that there is no single, certain, and reliable sign of the presence of acute pancreatic disease, and that the diagnosis can be made with a satisfactory degree of certainty only by the use of all diagnostic measures. Determinations of the diastase in the blood and urine are uncertain, and the demonstration of pancreatic lipase in the blood by atoxyl resistance is technically very difficult. Sugar is found in the urine in 10 per cent of the cases. If 50 gm. of glucose dissolved in $\frac{1}{4}$ liter of water is administered by mouth, alimentary glycosuria appears in 50 per cent of acute cases. A leucocytosis of 25,000 marks the boundary between mild and severe cases. An increase in the brick-dust sediment depends upon the degree of protein destruction. Urobilinogenuria is found always,

urobilinuria, frequently, and bilirubinuria, occasionally. Albumin often appears in the urine. Kidney damage increases the residual nitrogen and indican in the blood.

Bernhard favors immediate operation in: (1) the peritonitic stage, if the abdominal rigidity does not subside after brief preliminary treatment; (2) the necrotic stage with severe jaundice, because a common-duct stone may prevent the flow of pancreatic juice; and (3) cases with abscess formation. He advises against early operation in: (1) mild cases; (2) the stages of pain and ileus; (3) the peritonitic stage with collapse and cardiac weakness; and (4) all cases with diminished urinary excretion and increased residual nitrogen. In cases in which operation is not done, maximal doses of morphine and atropine should be given at once. Fluids by mouth should be withheld, but a liberal amount of fluid should be given by parenteral methods. Before operation, heart stimulants, especially racedrin and ephedrin, should be administered to counteract the fall in the blood pressure. In general, the author tends toward expectant treatment whereby apparently better results are obtained than from early operation which has a mortality of 50 per cent.

(PLENZ) LEO M. ZIMMERMAN, M.D.

MISCELLANEOUS

Short, A. R.: Abdominal Pain in Children. *Brit. M. J.*, 1935, 1: 1157.

From the standpoint of diagnosis, cases of abdominal pain in children may be divided into those with and those without diarrhea, and those of children under, and those of children over, the age of five years. The great majority of children with abdominal pain are suffering from some form of irritant poison, either chemical or bacterial. Among these must be included children who have been overeating or taking unsuitable articles of diet. In most cases the attack is brief, lasting only a day or two. In some cases, however, the pain is due to a more serious ailment such as tuberculous or pneumococcal peritonitis or the chronic diarrhea of children. Tuberculous peritonitis with diarrhea is usually accompanied by emaciation, swelling of the abdomen, and a slight irregular fever.

The most important condition to be borne in mind when a child under five years of age is seized with an acute attack of abdominal pain is intussusception, because twenty-four hours' delay in the diagnosis means death. When the passage of undeniable blood and mucus has occurred a mistake is scarcely apt to be made, but this sign may be delayed for many hours or the mother may give a confused history and have thrown away the evidence. However, even without the passage of blood and mucus, the diagnosis is generally possible. As in nearly 50 per cent of cases of intussusception the presence of the sausage-shaped tumor can be determined only under anesthesia, it may be well worth while in cases of doubt to give an anesthetic and palpate for such a

other parts of the abdomen besides the right iliac fossa. Under these circumstances there is not much to be gained by operating as the glands are likely to be too widespread for removal.

There remain a considerable number of cases of abdominal pain in children in which the appendix cannot reasonably be suspected. In these there is no history of a dietary indiscretion, and no vomiting, diarrhea, or constipation. The pain is very persistent or recurrent. If it is present all day and every day it may be due to tuberculous peritonitis, tuberculosis of the spine, or muscular strain of the abdominal wall.

Tuberculous peritonitis of the ascitic type in children is manifested by a chronic causeless ascites, tuberculous peritonitis of the adhesive type, by peculiar lumps in the abdomen, and tuberculous peritonitis of the ulcerative type by emaciation and a swollen, doughy abdomen.

In spinal tuberculosis an angular curvature of the spine may cause abdominal pain.

Chronic muscular strain of the abdominal muscles may be puzzling. The patient may think that his stomach or appendix is at fault, but the pain depends more on movements and posture than on the ingestion of food, there is no nausea, and there may be tenderness on pressure not only when the muscles are relaxed but also when the patient is asked to sit up in bed and his muscles are contracted. In the presence of appendicular tenderness tense muscles protect against pain on pressure.

There remain to be discussed the cases of children with recurrent pain usually lasting a few minutes, located chiefly in the middle of the abdomen, and coming on without obvious cause in which physical examination gives entirely negative results. The pain may recur over many months or years. Many, if not all, children with such pain are afflicted with mesenteric lymphadenitis, usually tuberculous. This is a very common finding at autopsy. Formerly it was difficult to understand how such enlarged glands, even if caseous or calcareous, could cause such sudden, brief, occasional pain. This problem was solved when it was shown that the splanchnic nerve fibers of the mesentery traverse the lymphatic glands. A wave of peristalsis, which would be painless in itself, pulls upon the subjacent mesentery and the inflamed or calcareous gland between its leaves irritates the nerve fibers passing through or close by. When the wave has passed the pain ceases. Sometimes children with such pain have signs of tuberculosis elsewhere, as in the glands of the neck. Occasionally a roentgenogram shows calcareous glands in the abdomen. The condition is difficult to treat. If the pains are frequent they may generally be relieved by rest in bed, fresh air, and regular dosing with belladonna. When the spasms occur at intervals of days or weeks, it is scarcely worth doing anything. In the course of a few years the child seems to outgrow the condition. Operation might be considered, but the glands are apt to be too numerous for removal.

MANUEL E. LICHTENSTEIN, M.D.

tumor The chief signs of intussusception when no blood or mucus has been passed and no tumor can be felt are the highly suggestive alterations of listlessness and colicky pain and the finding of blood and mucus on the examining finger introduced into the rectum Not infrequently children referred to the surgeon on suspicion of intussusception are suffering instead from acute ileocolitis In this condition there may be colicky pains the child may look very ill, and blood and mucus may be passed but no sausage shaped tumor can be felt As a rule the child is over eighteen months old The illness usually begins with diarrhea It must be borne in mind that ileocolitis is essentially a diarrhea whereas intussusception is essentially an intestinal obstruction In the former condition fecal matter as well as blood and mucus will be found on the examining finger introduced into the rectum, in the latter only blood and mucus Acute intestinal obstruction from causes other than intussusception may occur in young children but with the exception of obstruction due to strangulated hernia and postoperative obstruction it is rare

Whenever abdominal pain lasting more than an hour or two and not accompanied by diarrhea occurs in a child more than five years of age appendicitis is likely to be suspected In true cases of appendicitis there is never any doubt or difficulty in making the diagnosis after about six hours from the onset of the symptoms As a rule there is pain followed by vomiting and a rise in the temperature The pain begins in the middle of the abdomen and becomes localized in the right iliac fossa where usually a little tenderness and guarding are found In some early cases however there is only slight tenderness and no guarding Difficulty in the diagnosis is caused by the pelvic appendix both in children and adults In the great majority of unrecognized and fatal cases of appendicitis the appendix is of this type In inflammation of a pelvic appendix the condition begins with mid abdominal pain and often with vomiting The temperature then rises and the pain shifts lower in the abdomen There is no tenderness or guarding in the right iliac fossa When the appendix is low in the pelvis tenderness will be found on rectal examination More frequently the appendix lies a little higher hanging over the brim Under such conditions tenderness is not found on rectal examination but slight tenderness is discovered on pressure above the pubes and Iowpirt's ligament on both sides In a school child this is quite enough to warrant operation There are also a number of special signs of appendicitis—skin tenderness Rovsing's Bastedo's and Cope's signs and the unilateral cremasteric reflex—but according to the author's experience these fail just when they would be of the most value Many children and young adults have a succession of attacks of mid abdominal pain lasting a few hours with no increase in the pulse or temperature and no signs in the right iliac fossa which cannot possibly be diagnosed but are eventually proved to be due to appendicitis by

the occurrence months or years later of a typical acute attack The inflamed appendix which is then removed shows a stricture left by a previous inflammation After the appendectomy the attacks of pain cease

A dangerous disease which usually occurs in girls of school age and is often mistaken for appendicitis is pneumococcal peritonitis This condition is not common Sometimes it comes on with or follows pneumonia Under such conditions the diagnosis is not difficult More frequently the acute type of pneumococcal peritonitis is abdominal from the beginning The pain may occur in the right side the hypochondrium, or throughout the abdomen In some cases it is more severe than in any other acute abdominal condition in children There is often a little diarrhea during the first few hours The pulse rate and the temperature rise and within a day general abdominal rigidity and tenderness usually develop Vomiting may or may not occur The patient soon appears very ill In a typical case the diagnosis can be made with fair certainty The early onset of symptoms of general peritonitis without localization in the right iliac fossa the early diarrhea and the obvious severity of the illness are enough In addition there may be early signs of pneumonia It is important to recognize the nature of the condition chiefly to avoid giving a too favorable prognosis The disease is usually fatal Operation is probably worse than useless except in later cases with a localized abscess In the past laparotomy was often done in the belief that the condition was appendix peritonitis

Influenza sometimes suggests appendicitis temporarily There may be pain and tenderness in the lower part of the abdomen on the right side accompanied by fever However the rise in the temperature precedes the pain and is too high in proportion to the abdominal symptoms An enema generally puts an end to the doubt by relieving the *ilatus* and pain

The author has found that in 6 per cent of cases diagnosed as acute appendicitis in school children the condition is mesenteric lymphadenitis Sometimes a differential diagnosis is impossible However in mesenteric lymphadenitis there is usually no vomiting the pain starts in the lower part of the abdomen on the right side instead of at the umbilicus and the tenderness is rather vague and diffuse Because of the difficulty in differentiating the two conditions it is wise to mention to the parents the possibility of lymphadenitis as well as appendicitis before operation At operation the appendix should be removed and a search then made for enlarged glands If enlarged glands are found they should also be removed Great care must be taken in their removal as otherwise there may be a good deal of bleeding and some risk to the integrity of the arterial blood supply to the cecum If enlarged glands are left the pain will recur Tuberculous mesenteric glands giving rise to attacks of pain fever and tenderness may be found also a

other parts of the abdomen besides the right iliac fossa. Under these circumstances there is not much to be gained by operating as the glands are likely to be too widespread for removal.

There remain a considerable number of cases of abdominal pain in children in which the appendix cannot reasonably be suspected. In these there is no history of a dietary indiscretion, and no vomiting, diarrhea, or constipation. The pain is very persistent or recurrent. If it is present all day and every day it may be due to tuberculous peritonitis, tuberculosis of the spine, or muscular strain of the abdominal wall.

Tuberculous peritonitis of the ascitic type in children is manifested by a chronic causeless ascites; tuberculous peritonitis of the adhesive type, by peculiar lumps in the abdomen, and tuberculous peritonitis of the ulcerative type by emaciation and a swollen, doughy abdomen.

In spinal tuberculosis an angular curvature of the spine may cause abdominal pain.

Chronic muscular strain of the abdominal muscles may be puzzling. The patient may think that his stomach or appendix is at fault, but the pain depends more on movements and posture than on the ingestion of food, there is no nausea, and there may be tenderness on pressure not only when the muscles are relaxed but also when the patient is asked to sit up in bed and his muscles are contracted. In the presence of appendicular tenderness tense muscles protect against pain on pressure.

There remain to be discussed the cases of children with recurrent pain usually lasting a few minutes, located chiefly in the middle of the abdomen, and coming on without obvious cause in which physical examination gives entirely negative results. The pain may recur over many months or years. Many, if not all, children with such pain are afflicted with mesenteric lymphadenitis, usually tuberculous. This is a very common finding at autopsy. Formerly it was difficult to understand how such enlarged glands, even if caseous or calcareous, could cause such sudden, brief, occasional pain. This problem was solved when it was shown that the splanchnic nerve fibers of the mesentery traverse the lymphatic glands. A wave of peristalsis, which would be painless in itself, pulls upon the subjacent mesentery and the inflamed or calcareous gland between its leaves irritates the nerve fibers passing through or close by. When the wave has passed the pain ceases. Sometimes children with such pain have signs of tuberculosis elsewhere, as in the glands of the neck. Occasionally a roentgenogram shows calcareous glands in the abdomen. The condition is difficult to treat. If the pains are frequent they may generally be relieved by rest in bed, fresh air, and regular dosing with belladonna. When the spasms occur at intervals of days or weeks, it is scarcely worth doing anything. In the course of a few years the child seems to outgrow the condition. Operation might be considered, but the glands are apt to be too numerous for removal.

MANUEL E. LICHTENSTEIN, M.D.

GYNECOLOGY

UTERUS

Vinós A R. The Intramural Innervation of the Uterus (Sobre el sistema nervioso del útero, nerviación intramural). Arch Fac de med de Parag 1934-35 3 115

The intramural innervation of the uterus has been investigated repeatedly with conflicting or inconclusive results, particularly with regard to the occurrence of ganglion cells and the distribution and terminations of nerves in the myometrium. The reason for this is the lack of a staining method which will give indisputable pictures of the intraparietal nerve supply of the various viscera.

Vinós studied the uterus of the sheep, dog, cat, and newborn child by the Cajal, Bielschowsky, methylene blue and Golgi methods. He considers the Golgi method the procedure of choice. He found that after entering the uterine wall the nerve fibers cross it to the junction of the muscularis and the submucosa which is the nerve center of the organ. This zone contains large nerve trunks which accompany the vessels and give off collaterals to the myometrium and mucosa. The nerve supplies of the two layers are independent of each other and apparently of the corresponding perivascular plexuses.

Vinós proved the presence of ganglion cells in the parenchyma of the cervix. He states however, that these cells are small, scarce and inconstant and represent merely the penetration of juxtamural ganglion cells into the wall.

The nerves of the myometrium form an intricate plexus which is most developed in the circular layer. They end on the surface of the muscle cells in a variety of formations: vertical with either smooth or varicose arborizations and horizontal thickened terminations following the direction of the circular fibers. The plexus contains some cells identical in appearance with the interstitial cells of Cajal in the intestine. These are situated between the muscle bundles particularly in the circular layer. Vinós considers them provisionally as nerve cells.

The nerves supplying the gland form plexuses in the interglandular spaces from which very delicate fibrils terminate on the basal surface of the gland cells either singly or in a complicated network. No intercellular or intracellular endings were demonstrated.

A subepithelial plexus is formed by fibers which arise directly from the submucosal plexus pass through the mucosa without giving off collaterals and end in a network beneath the epithelial lining of the uterus. As this layer of the mucosa contains no glands but is rich in vessels the subepithelial plexus may have a vascular significance.

M T Morse MD

Weil P E and Isch Wall P. Uterine Hemorrhages Without Uterine Lesions. Hemorrhages of Hematogenic Origin. Hematogenic Syndromes (Les hémorragies utérines sans lésions utérines, hémorragies de hémogénèse, syndromes hémogéniques). Les franc de gynec et obst 1935 30 413

The authors emphasize the importance of investigating the blood of patients with idiopathic uterine bleeding, i.e., bleeding from a uterus without demonstrable lesions. As, under normal conditions, the body is well protected by vascular contraction, thrombus formation, and blood clotting, against exsanguination from injuries to small blood vessels, any abundant hemorrhage of long duration from minute vessels should be considered due to a blood dyscrasia. In the zeal to find a local causative factor for bleeding menorrhagias of hematogenic origin are frequently overlooked. The use of the term 'hemophilias' to describe these blood dyscrasias is incorrect.

Bleeding of hematogenic origin is a diathesis of vasomotoric blood instability and disequilibrium which is often familial or hereditary. In the presence of such a diathesis hemorrhages may be provoked by various episodes in the genital sphere: infections, hepatic disorders, fatigue and various toxic factors. Asthma and urticaria often alternate with the hemorrhage. In cases with these conditions efforts at desensitization are justified. The authors describe (1) The typical hematogenic state, (2) localized or transitory hematogenic states and (3) primary and secondary hematogenic syndromes.

Detection of the blood and vascular stigmata of the hematogenic state requires a careful investigation of (1) the bleeding time which is usually prolonged or variable (2) the coagulation time which is usually normal or subnormal, the clot retracting little or not at all (3) the vascular resistance which is usually diminished (4) the number of platelets which is usually diminished and (5) the total and differential leucocyte counts.

Menorrhagia of hematogenic origin usually makes its first appearance at puberty. There are two cardinal signs: mucosal hemorrhage and purpura. As a rule the history discloses a bleeding tendency during infancy and childhood manifested by cutaneous hemorrhages after slight trauma, epistaxis and gingival bleeding. The menses while prolonged usually undergo no great changes in rhythm although shorter cycles are not uncommon. The first attack of bleeding is often sufficient to transform a subnormal blood into one with all the stigmata of a blood dyscrasia. During pregnancy there is often a change for the better such that the patient may subsequently be cured. The menopause with its endocrine disturbances is frequently the provocation.

tive factor. Infections, hepatic disorders, and intoxications (alcohol, benzene and phenol compounds, arsenic bismuth) are also important etiological factors and must be carefully searched for. Paradoxically, the patients are subject also to phlebitis, thrombosis, and embolism.

The authors emphasize that these blood dyscrasias are frequently associated with endocrine disturbances and hereditary syphilis. A careful investigation from these angles is therefore extremely important. The glands chiefly involved are the ovary and the thyroid. Hyperthyroidism, hypothyroidism, or dysthyroidism may be present. Treatment of the hypothyroid state gives the most satisfactory results. The liver and spleen may also be affected. The latter is often greatly enlarged. Hereditary syphilis plays an important part in the production of these diatheses.

The most effective therapeutic measure in menorrhagias of the hematogenic type is hemotherapy. Small doses of whole blood or fresh human blood serum injected subcutaneously or intramuscularly often arrest a persistent menorrhagia very promptly. The authors prefer heterohemotherapy. Calcium is an important medicament. Of the endocrine preparations, the authors prefer hemato-ethyroidine. However, the good results obtained with di-iodothyrosine indicate that hemato-ethyroidine acts, not through the ingested animal blood, but through its effect in counteracting hyperthyroidism. Splenectomy and X-ray sterilization should be reserved for severe or recurrent cases. Blood transfusion is indicated when the anemia is severe. Only donors of the same type as the patient should be used.

HAROLD C. MACK, M.D.

Ollervides, R., Jr.: Diathermic Coagulation in Cervicitis (Diatermo-coagulación en cervicitis). *Rev de cirug, Hospital Juarez, Mex*, 1935, 281.

Ollervides has treated more than seventy-five cases of cervicitis by diathermic coagulation with remarkably good results. He believes this is the method of choice for the condition. He states that irritating applications are not only useless but also dangerous as they predispose to cancer. In his experience, regional vaccination has given very few cures. Radiotherapy is partially effective but is difficult to apply and beyond the means of most patients. Diathermy is not a panacea. Sclerotic and adenomatous cervixes do not yield to it and should be amputated.

The author uses the monopolar method for acute ulceration and chronic cases with extensive superficial erosions, and the bipolar method principally in the subacute, chronic, and hypertrophic forms. He treats pre-adenomatous cervixes by puncture with an acunform monopolar electrode to a depth of $1\frac{1}{2}$ cm. The intensity of the current varies from 200 to 800 ma., and the time from a few seconds to fifteen minutes. In cases of gonococcal infection diathermy was combined with local vaccination. The lesions usually healed completely within a

month. The treatment was harmless and painless in the great majority of cases, although a few patients had immediate nausea and a marked fall of the blood pressure. Two patients developed an alarming acute metritis and salpingitis, but these conditions subsided in a few days.

The principal contra-indications to diathermic coagulation are:

1. Acute inflammations and chronic or even latent infections at other sites. The latter must be carefully ruled out.

2. Local congestion. The procedure should not be used in the premenstrual period.

Pregnancy is not a contra-indication. The author used the treatment in four cases with complete success and without causing the slightest tendency to abort.

The article contains drawings showing the progress of the cases. M. E. MORSE, M.D.

Morillo, L.: Tuberculosis of the Uterine Cervix (Tuberkulose des Gebärmuttershalses). *Ztschr. f. Geburtsh.*, 1935, 110-166.

The author reports in detail seven cases of tuberculosis of the uterine cervix and then discusses the question whether tuberculosis is ever primary in the cervix. From an analysis of all of the cases reported in the literature he has come to the conclusion that primary tuberculosis of the uterine cervix has never been definitely proved. Of the seven patients whose cases he reports in this article the first had had a pulmonary abscess and symptoms referable to pleural and peritoneal involvement four years previously. The second, a girl twenty-one years old, gave a history of tuberculous peritonitis at the age of ten or eleven years and was suffering from active pulmonary tuberculosis. The five other patients had had a pulmonary process for a period of years. The treatment included radium and roentgen irradiation as well as ultraviolet irradiation.

(HANS O. NEUMANN). LEO A. JUNKKE, M.D.

Traina Rao, G.: Malignant Adenoma of the Cervical Canal (L'adenoma maligno del canale cervicale). *Riv ital di ginec.*, 1935, 18-38.

The author reports nine cases of malignant adenoma of the cervical canal. Eight were treated by hysterectomy plus bilateral removal of the adnexa and one was treated by radium irradiation because surgery was contra-indicated by the patient's general condition. The results were uniformly good and no recurrences were found in the follow-up, which in several cases extended over a period of five years.

The patients ranged in age from thirty-six to fifty-six years. Five were between fifty and fifty-six years old. Seven had borne from four to ten children, one was a primipara, and one was a nullipara.

Copious and spontaneous bleeding was a constant sign. In four cases there was leucorrhea.

Bimanual examination usually revealed an enlarged cervix of irregular consistency and a normal

vaginal mucosa. The diagnosis is dependent upon biopsy and microscopic examination. The histological characteristics of the malignant adenomas were as follows:

1. Ordinary monostratification of the epithelial cells which caused them to appear normal or nearly normal, a normal or increased secretory power, an intact basal membrane and absolute absence of karyokinesis.
2. Scarcity or absence of interglandular stroma.
3. Exuberant glandular infiltration of the deeper tissues.

A review of the literature reveals marked differences of opinion regarding the classification of these tumors. Some believe they should be classified as benign while others regard them as definitely malignant. Winter states that a purely benign form does not occur; that careful study of sections will show carcinomatous changes in all. Puccini observed carcinomatous change in two of his twenty-three cases. Kaufman, Barbacci and Herman state that malignant adenomas have the property of metastasis as well as recurrence. The author believes that the solution of the problem depends upon the histological interpretation of early malignancy.

GEORGE C. FROLA, M.D.

Séjournet P. Cancer of the Cervix Following Subtotal Hysterectomy (Cancer du col restant après hystérectomie subtotale). *Bull. Soc. d'obst. et de gynec. de Par.* 1935 24 278.

Séjournet reports in detail 2 cases of carcinoma developing in the cervix after subtotal hysterectomy and discusses the problem of subtotal hysterectomy and cancer in general.

One of his patients had a pleomorphic carcinoma and the other an adenocarcinoma. The patient with the pleomorphic carcinoma died of anemia. The patient with an adenocarcinoma made an excellent two-year recovery after radium therapy. Séjournet gives a detailed review of the statistics on adenocarcinoma of the cervix.

In the literature for the period from 1926 to 1935 he found 302 cases of cervical cancer following subtotal hysterectomy.

According to 4 important statistical compilations by surgeons covering 2,931 surgically treated cases of cervical cancer, the incidence of the condition following hysterectomy is 2.19 per cent. According to 5 statistical compilations from anti-cancer centers it is 4.17 per cent.

The lapse of time between the hysterectomy and the appearance of the cancer is variable. Of 189 cases reviewed, the cancer manifested itself within a year in 48 and after from thirteen months to five years in 64. Cancers developing after five years may be considered primary and not related to the hysterectomy.

Of a series of 139 cases in which subtotal hysterectomy was done, the incidence of cancer in the cervical stump was highest (64.6 per cent) in those in which the operation was performed for fibroids

and next highest (24.2 per cent) in those in which it was performed for tubal lesions.

The treatment indicated is almost entirely limited to irradiation. The results are mediocre.

ALBERT F. DE GROU, M.D.

Richardson E. H. Total Versus Subtotal Abdominal Hysterectomy in Benign Uterine Disease. *Am. J. Surg.* 1935, 23 558.

Richardson says that no one can review the voluminous literature on total versus subtotal hysterectomy in benign uterine disease without being profoundly impressed by the continued prevalence of benign diseases of the uterine cervix and their etiological relationship to cancer. Because of this prevalence and relationship it is exceptional to encounter a normal cervix in conjunction with the indications for hysterectomy. Consequently, conservative subtotal hysterectomy has today only a limited field of application.

Unfavorable experiences with the older operations led Richardson to develop a simplified technique for abdominal panhysterectomy designed specifically to guard against the major hazards of the operation, namely, mortality, hemorrhage, shock, damage to the ureters, bladder and rectum and postoperative peritonitis. On the basis of his experience with the new technique in nearly 100 cases which included all types of simple and complicated lesions requiring such surgical treatment, Richardson recommends the simplified technique with great confidence to other surgeons who like himself have found the older operations formidable and unsatisfactory.

J. THORNWELL WITHERSPOON, M.D.

ADNEXAL AND PERIUTERINE CONDITIONS

Morra G. The Behavior and Structure of the Round Ligament in Changes of the Position of the Uterus and Cases of Uterine Fibromyoma (Comportamento e struttura del ligamento rotondo nelle alterazioni della statica uterina e nei fibromiomi dell'utero). *Ginecologia* 1935 1 296.

Following a review of the literature on the anatomy and physiology of the various uterine ligaments and the manner in which the uterus is suspended and held in position, the author reports the findings of histological examinations which he made of the elastic and muscular layers of the round ligament. The subjects of his studies were a group of normal females (two girls at puberty, three multiparas, two nulliparas and five women who had passed the menopause), a group of women with abnormal conditions of the genital tract (two with uterine retroflexion, thirteen with retroversion and seven with enlargement of the uterus due to fibromyoma) and two women who were pregnant. In every instance the length, diameter and tensile strength of the round ligaments were determined.

In all of the cases of retroversion and retroflexion of the uterus there was a marked hypertrophy of the elastic and muscular tissues of the round ligaments.

This was not found in the cases in which the uterus was in good position. The authors regard it as a functional hypertrophy.

The article includes eight photomicrographs showing the typical changes in the round ligaments

EUGENE T LEDDY, M D

Soria, G.: Anatomical Study of the Fallopian Tube with Regard to the Presence of Muscle Sphincters (Ricerche morfologiche sulla tromba uterina della donna allo scopo di rilevare se esistono in essa sfinteri muscolari) *Arch di ostet e ginec*, 1935, 42 269

In a series of roentgenograms of fallopian tubes injected with radio-opaque solutions Rossi and Dallera were able to demonstrate four constrictions—one at the junction of the uterine cavity and the tube, another at the junction of the pars interstitialis and the isthmus, a third at the lateral extremity of the isthmus, and a fourth at the abdominal orifice. They described these constrictions as sphincters.

For anatomical confirmation of these findings the author made serial sections of eleven normal tubes removed at operation for associated disease. Detailed microscopic studies were facilitated by special preparations which brought out the muscle fibers, blood vessels, and nerves. From his findings Soria draws the following conclusions:

1. The innervation of the tube is intimately associated with the innervation of the ovary.

2. The macroscopic sulci or depressions designated by Rossi and Dallera as sphincters were not true muscle sphincters but due to a peculiar annular distribution of the blood and nerve supply of the regions in which they were found.

3. Anatomically, there are only two muscle bundles which can be called sphincters—one corresponding to the abdominal orifice and the other in the pars interstitialis.

4. The structures recognized in the roentgenograms as sphincters cannot be demonstrated by morphological study and presumably must be interpreted as functional sphincters caused by the annular arrangement of the blood and nerve supply of the fallopian tube.

GEORGE C FINOLA, M D

Salamana, A. G.: Conservation of the Ovary in Hysterectomy (La conservación del ovario en la histerectomía) *Rev de cirug, Hospital Juarez, Mex*, 1935, 251

The author reviews the endocrine relationships of the ovaries and uterus. Because of the mediocre results of gland therapy and ovarian transplantation, he advises that normal ovaries be conserved when hysterectomy is done. He states that he has not encountered cystic or malignant degeneration of the ovaries following hysterectomy, but in order to prevent cystic degeneration the circulation and innervation of the ovaries must be carefully preserved. When removal of the ovaries is necessary, ovarian transplantation should always be done and,

if possible, the uterus or a part of it should be preserved in order to assure functioning of the graft.

M E MORSE, M D

EXTERNAL GENITALIA

King, A. J., and Mascall, W. N.: Gonococcal Vaginitis in the Adult. *Lancet*, 1935, 228 1492

Gonococcal infection of the vaginal mucous membrane occurs in the acute stage of gonorrhea and may persist in the later stages. Of 162 cases, the gonococcus was isolated from the vaginal fornices in the chronic stage of the disease in 53 (33.3 per cent).

The conspicuous clinical differences in the vaginal infection of children and young unmarried women as compared with that of multiparas and women in whom the mucous membranes have been hardened are due to the difference in the extent and severity of the infection. In the former, the whole length of the vagina is involved whereas in the latter the infection usually becomes limited to the vaginal fornices.

Severe infections of the vagina due primarily to organisms other than the gonococcus are much less common than is generally believed. The gonococcus is often present in such infections, but difficulty is experienced in isolating it. In the isolation of the gonococcus in the "non-specific" group of cases the vaginal plate method of Orpwood and Price with the use of egg-albumin-agar as the medium gives the most satisfactory results. Of 44 cases in which the plates alone were positive, 28 were cases of the severe generalized type of vaginitis in which repeated tests from other sites had proved negative.

The theory of the "antigonococcal" value of a highly acid vaginal secretion in the adult must be abandoned. In the authors' culture tests no inhibitory action appeared to be exerted by strongly acid secretions. Tests of the vaginal fluid with litmus paper in 100 cases showed the reaction to be acid in 93, alkaline in 3, and neutral in 5.

For a correct and certain diagnosis in suspected cases of gonorrhea in the female it is essential to utilize all the known tests. In 44 of the cases reviewed an incorrect diagnosis would have been made if the vaginal plate method had not been employed.

Treatment should be directed to the vaginal fornices, the cervical canal, and the urethra. All instrumentation and manipulation should be as gentle as possible. If antiseptics are used they should not be employed in concentrated form. While quite strong antiseptics may apparently be tolerated by the vaginal mucous membrane without an increase in the symptoms or discomfort, the authors have found that the use of such chemical irritants will inevitably prolong the duration of the infection. Better results were obtained with a 1 per cent than with a 25 per cent solution of mercurochrome and with a 10 per cent than with a 50 per cent solution of ichthyol in glycerin. It is possible that the local immunity processes of the

tissues are adversely affected by the stronger concentrations

The improved cultural method is valuable and essential not only in the diagnosis of gonorrhea in the female but also in the establishment of cure after treatment

CHARLES BARON M.D.

MISCELLANEOUS

Allen F. Gardner W. U. and Diddle A. W.
Experiments with Theelin and Galactin on the
Growth and Function of the Mammary Glands
of the Monkey *Endocrinology* 1935 29 303

The authors injected ten monkeys weighing from 3.36, to 6.0 gm. with galactin with or without previous theelin treatment. In four mature animals and one animal just reaching sexual maturity lactation was induced. Three of these mature animals retained one or both ovaries. The two others were ovariectomized and had been previously injected with 2,150 and 1,700 rat units of theelin. In the cases of the three normal animals the treatment with galactin was begun on the third, fifteenth and twentieth days of the menstrual cycle respectively.

In the remaining five animals three of which were just reaching maturity and two of which were immature the administration of the lactation stimulating hormone in doses of from 3 to 23 rabbit units did not induce lactation. One of these animals was ovariectomized. In the cases of all of them from 1,300 to 1,700 rat units of theelin were injected before the galactin or prolactin treatment was begun.

The fully developed mammary glands of the mature monkeys responded positively to the galactin or prolactin treatment whereas the partially developed mammary glands of the younger monkeys did not respond. No histological changes that might be attributed to the injection of the lactation stimulating hormone were observed in the reproductive tract, thyroid, parathyroids, pituitary gland or suprarenal glands.

ANTHONY F. SAYA M.D.

Engle E. T., Smith P. F. and Shelesnyak M. G.
The Role of Estrin and Progesterin in Experimental Menstruation *Am. J. Obst. & Gynec.* 1935 29 737

It is generally believed that in the mature monkey uterine bleeding occurs when the estrin supply is cut off. This bleeding can be prevented by the administration of progesterin, a hormone of the corpus luteum. It is prevented as long as the treatment is continued. In the authors' experiments the treatment was continued in one instance for twenty-eight days, but usually for only eleven or twelve days. After it was stopped the bleeding recurred in from three to five days.

After the termination of progesterin therapy the uterine bleeding occurs within the expected time even when estrin administration is instituted at once and continued.

The authors cite evidence reported by other investigators which indicates that in the human

female also menstruation results from a cessation of the secretion of the corpus luteum and occurs in the presence of a high estrin content of the blood.

EDWARD LYMAN CORNELL M.D.

Kurtzrok R., Wilson L. and Cassidy M. A.
The Treatment of Amenorrhea with Large
Doses of Estrogenic Hormone *Am. J. Obst. & Gynec.* 1935 29 771

The authors treated twelve cases of primary amenorrhea and thirteen cases of secondary amenorrhea with large doses of Progyon B and amnion.

They confirmed Kaufmann's observation that 40,000 r. u. of estrin are required to produce cyclical bleeding and to build up the proliferating phase of the endometrium. Cyclical bleeding cannot be differentiated by the patient from normal menstruation.

To bring on the first period, doses of 200,000 r. u. or more are usually necessary in case of primary amenorrhea and doses of about 50,000 r. u. in case of secondary amenorrhea. To initiate growth of the breasts, mainly the duct system, doses of 50,000 r. u. are required. To produce growth of a hypoplastic myometrium, doses of more than 100,000 r. u. are essential. In some of the cases of primary amenorrhea reviewed the breasts, the cyclical bleeding and the myometrium regressed in the order named when the treatment was stopped.

The authors state that the uterine anlage which has failed to develop in the fetus may be brought to some stage of development in adult life by large dose of estrogenic hormone.

Spontaneous menstruation may follow the cyclical bleeding induced by estrogenic hormone, as in secondary amenorrhea.

The endometrium which has been built up to the proliferative phase by an external supply of estrin may be converted to the pregravid phase by the patient's own corpus luteum.

EDWARD LYMAN CORNELL M.D.

Gulmarães A. Filho. Membranous Dysmenorrhea (Dysmenorrhea membranacea). *Rev. obs. ginec. de São Paulo* 1935 1 29

Membranous dysmenorrhea is a rare menstrual disturbance occurring particularly in the early period of menstrual life and in young unmarried women. It is more common in the absence of pathological changes in the reproductive organs than in the presence of such changes. It appears more frequently as a functional disturbance than as a disorder of organic origin. It is thought to be due to an ovarian hormone disturbance at present not clearly understood.

It is characterized by the expulsion of shreds or of a partial or complete cast of the endometrium. Complete exfoliation is rare. Sometimes pieces of membrane are mixed with blood clot. The larger pieces may be mistaken for a discharge of decidua maternal following abortion or in ectopic pregnancy which they resemble macroscopically. However the

histological appearance of the membrane is characteristic. The cells are smaller than decidual cells and exhibit more irregularity in structure and more pronounced degenerative changes

In some cases spontaneous recovery results while in others the symptoms recur regularly or irregularly for an indefinite time in spite of all therapeutic measures. Removal of hyperplastic endometrium by dilatation and curettage may prove beneficial. In some cases the use of ovarian extracts has been followed by improvement. Lutein and pituitrin have also been found of value.

Five cases are reported in detail

WILLIAM R. MEEKER, M.D.

Watson, M. C.: Observations on the Treatment of Dysmenorrhea with the Placental Extract "Emmenin." *Canadian M. Ass. J.*, 1935, 32: 609

Watson is convinced that the administration of emmenin is a valuable supplemental hormone therapy in dysmenorrhea when the pains are due definitely to forcible uterine contractions. When factors with an unfavorable influence on the patient's consciousness, general health, economic and social condition, and mental impressions are present, his results are materially improved by efforts to eliminate these factors. The general health is improved by the administration of ferrum redactum or ferrous carbonate, a regulated ample diet with an adequate supply of necessary ingredients such as proteins, calcium, and vitamins, and a copious fluid intake. Economic and social influences should be regulated so far as possible, and rest in bed for an average minimum of eight hours out of the twenty-four should be required. By this régime and the administration of emmenin as a supplemental hormone Watson has reduced operative interference to the minimum.

Forty-nine patients were completely relieved of pain and associated symptoms, and of this group, twenty-one have had no return of symptoms after a period of six months without emmenin. Twenty-seven patients were relieved to a degree which enabled them to disregard the remaining discomfort. In the cases of twenty-nine who were not relieved, the loss of time from work was reduced by the administration of 3- to 5-gr doses of amidopyrine with 1/100 gr of atropine sulphate. The only operation recommended was modified dilatation of the cervix with incision of the internal os and packing.

In conclusion Watson says that, for successful results, the treatment must be adapted to the requirements of the individual case.

J. THORNWELL WITHERSPOON, M.D.

Ulrich, P.: Genital Hemorrhages with a Local Cause (Les hémorragies génitales de cause locale) *Rev. franç. de gynéc. et obst.*, 1935, 30: 355

Like pregnancy, menstruation is a physiological phenomenon which constantly borders on the pathological. Pathological states of menstruation are therefore often difficult to distinguish. The principal

menstrual disturbances are characterized by: (1) irregularity of the menstrual rhythm, (2) variations in the intensity and quality of the menstrual flow, and (3) variations in the duration of the flow. Thus hypermenorrhea is characterized by an exaggerated amount of flow, polymenorrhea, by increased frequency of flow, and macromenorrhea, by an unusually prolonged period of flow. The term "oligomenorrhea" signifies regular menses at long intervals; the term "hypomenorrhea," a lessened amount of flow, and the term "metrorrhagia," intermenstrual bleeding. The author uses the term "menometrorrhagia" to designate cases of prolonged flow in which it is difficult to decide whether the bleeding is menstrual or intermenstrual. A typical example of this type is the bleeding in cases of metropathia hemorrhagica. The presence of clots is always a sign of pathological bleeding.

Ulrich classifies genital bleeding as follows: (1) bleeding of ovarian origin, (2) bleeding due to infections, (3) bleeding due to miscellaneous causes, (4) bleeding due to vascular stasis resulting from uterine misplacements, (5) intra-ovarian hemorrhage, and (6) vaginal and vulvar hemorrhage. He discusses at length the well-known endocrine relationships involved in female sex physiology.

Alterations in the ovarian hormone balance may result in menstrual disturbances. Hemorrhages due to hypofolliculinism are associated with genital hypoplasia and infantilism. Hypermenorrhea and polymenorrhea are most common. Metrorrhagia is exceptional. The occurrence of these hemorrhages depends on lack of contractility of the uterine musculature. The endometrium is thin and more fragile than normal. Hyperfolliculinism is characterized by bleeding of the menometrorrhagia type. Cystic glandular hyperplasia of the Swiss-cheese variety and hyperplasia of the uterine muscle are the chief anatomical findings. The ovaries may show many cystic follicles or sclerocystic changes. Hypersecretion of the corpus luteum results in the formation of a deciduiform metritis (Champy, Bulliard, and Douay). The clinical picture is that of menometrorrhagia. The endometrium, which is greatly thickened, shows an unusually thick decidual reaction and secretory glands.

Bleeding at the time of ovulation is possible though rare in women in perfect health. Chronic and acute infections (gonorrhea, colon bacillus infections, tuberculosis, syphilis) play a part in the causation of uterine bleeding. In approximately 50 per cent of cases of gonorrheal salpingitis there is polyor hypermenorrhea. General factors which may also play a causative rôle are errors in hygiene, excessive participation in sports, sexual excesses, professional fatigue, climatic changes, intoxications (drugs, alcohol), and psychic and vasomotor disturbances. Malpositions of the uterus (anteversion, lateral deviations, retroflexion, prolapse) are of importance because of their congestive effect.

Determination of the causative factor is not easy. The age of the patient and the period of life at which

the symptoms occur must be considered. Uterine hemorrhages in little girls are often due to hypergenitalism provoked by ovarian tumors or by tumors of the pineal gland, hypophysis, or adrenals. Genital hemorrhages of the newborn have nothing to do with menstruation. They are usually the result of passive congestion resulting from placental hormones. When neoplasms can be ruled out with certainty, puberty bleeding and premenopausal bleeding are usually due to hyperfolliculin states or hyperlutein hormone effects. Malignant ovarian tumors of slow growth must be considered when postmenopausal bleeding occurs.

Intra-ovarian hemorrhage is not uncommon. It is often associated with blood dyscrasias, especially when the hemorrhage is severe and prolonged. Vaginal and vulvar hemorrhage is most frequently the result of trauma (foreign bodies, masturbation, coitus). Senile involution renders the vagina especially susceptible to extensive tearing and hemorrhage from trauma. HAROLD C. MACK, M.D.

Farati M. The Gonodeviation in Obstetrics and Gynecology (La gonodeviazione in ostetricia e ginecologia). *Arch. ital. di ginec.* 1935 18 65.

Before presenting the results of his clinical and experimental investigations regarding the gonodeviation in obstetrical and gynecological cases, the author reviews the literature on the serum reaction of patients with gonococcal infections.

Many methods for the diagnosis of gonococcal infection (opsonic index, Ivore's Hamilton and Cooke precipitation, Ciuffo and Bruck agglutination, Bruck and Define cuti reaction, Finkelstein and Cerschen complement deviation, Bruck-Müller, Thomas IV, and numerous others) have been introduced. Each has given information of great value, especially in the chronic form of the disease.

Kunwaelder and Schwarz, using a personally prepared antigen, investigated 167 cases of salpingitis. Of the 83 in which the condition was found by bacteriological examination to be due to the gonococcus, only 1 was negative. Of 6 cases of gonorrheal arthritis, all gave a positive reaction.

Izwojnicka and Zawodninski, who carried out the complement deviation reaction 1,495 times in 1,400 cases, are convinced that the results depend directly upon proper preparation of the antigen. They recommend antigens prepared by either the Ower or the Crosti method. From their investigations they draw the following conclusions:

1. The complement deviation reaction has a specific behavior in gonorrheal infections.

2. The test becomes positive in the early stages of the gonococcal invasion. The reaction increases in intensity until the clinical manifestations of the disease reach their greatest severity and then gradually diminishes, becoming negative approximately two months after clinical cure of the infection.

Crosti regards the test as of prognostic value. He believes that the progressive decrease in specific amboceptor is prima facie evidence of amelioration

of the disease and that persistence of the complement deviation without a decrease in intensity is in disputable evidence of the existence of an active focus of infection.

Huhes states that the reaction is occasionally positive in lues and in the presence of an elevation of the temperature.

The author reports the complement deviation in 124 obstetrical and 174 gynecological cases. For the complement he used the blood of rabbits. The results were as follows:

Gynecological cases	Number	Positive	Negative
Salpingitis of unknown cause	35	22	13
Gonorrheal proctitis	1	1	0
Tuberculous salpingitis	13	1	12
Old gonorrheal adnexal disease	21	9	12
Acute gonorrheal Bartholinitis	2	2	0
Non-gonorrheal Bartholin gland abscess	3	0	3
Cancer of the uterus and cervix	12	0	12
Fibroids and ovarian cysts	15	3	12
Normal women	14	0	14
Normal women given gonorrheal vaccine	14	8	6

Obstetrical cases	Number	Positive	Negative
Normal pregnancy at or near term	53	15	38
Afebrile abortion	9	0	9
Febrile abortion	23	0	14
Normal puerperal women	19	0	19
Febrile puerperal women with parametritis, thrombophlebitis, or pyemia	29	6	23
Gonorrheal rheumatism in pregnancy	1	1	0

The author draws the following conclusions:

1. The test is specific although it was sometimes positive in the cases of women with a positive Wassermann reaction.

2. The test is sensitive.

3. Lost abortion and puerperal infections are often due to the gonococcus.

4. The intensity of the reaction parallels the clinical manifestations of the disease.

5. The reaction diminishes in intensity with amelioration of the local infection.

6. The average duration of the reaction after clinical recovery is about two months.

7. One injection of gonococcus vaccine is sufficient to render the test positive.

8. The test is of prognostic as well as diagnostic value.

GEORGE C. FINOLA, M.D.

Spoto P. The Value of Prostigmin in Obstetrics and Gynecology (La prostigmina nel campo ostetrico-ginecologico). *Ginecologia* 1935 1 455.

Prostigmin is a substitute for eserine and of value in atonic and paralytic intestinal conditions. The author reports experimental and clinical investigations which he carried out to determine whether prostigmin has a selective action on the muscular layer of the intestine or acts also on other smooth

muscle such as that of the uterus, bladder, and ureter. In his experimental investigations he studied the organs *in situ* and after their evisceration with the animal kept under ether narcosis and the nerve supply of the organs left intact. Roentgenoscopic and roentgenographic studies were made to determine the motility of the gastro-intestinal tract before and after administration of the drug.

The clinical investigations were carried out on pregnant and non-pregnant women who complained of obstinate constipation, women at various periods of the puerperium who complained of meteorism, abdominal distention or vesical paresis, and women who had distention after laparotomy for some obstetrical or gynecological condition.

The findings are summarized as follows:

1. In rabbits weighing from 2 to 3 kgm., injections of prostigmin in doses of from 0.005 to 0.1 mgm. per kilogram of body weight constantly increased the contractions of the intestine, bladder, and ureter.

2. The most effective pharmacological dose was 0.02 mgm. per kilogram of body weight. When this dose was given, the intestines, especially the small intestine, showed constantly a marked increase of motility. The bladder showed little reaction and the uterus almost none at all.

3. On isolated smooth muscle prostigmin had a constant stimulating effect.

4. With a concentration of 1:80,000,000 (and sometimes an even greater dilution) the intestinal musculature responded with increased activity. The small intestine was more sensitive than the large intestine. The paralyzing action of the drug was obtained at a concentration between 1:3,000,000 and 1:100,000.

5. The uterine musculature was not sensitive. A concentration between 1:100,000 and 1:1,000,000 produced stimulation.

6. The tonus of the bladder musculature was increased. Concentrations of 1:100,000,000 or even less had an evident effect upon it.

7. The ureter behaved in the same way as the bladder, but seemed to be in general less sensitive.

8. Roentgen studies showed faster emptying of the stomach and small intestine. The latter appeared to be particularly sensitive to the drug.

9. In a series of 118 patients, prostigmin constantly exerted a favorable effect on intestinal peristalsis, stimulating good contractions and causing a marked expulsion of gas. Spontaneous defecation as the sole effect of prostigmin was rare.

10. Vesical paresis was almost always overcome, but often only after repeated injections.

11. The administration of prostigmin intravenously which is the method to be preferred because of the constancy and rapidity of its effect, caused only slight and transitory disturbances.

12. The blood pressure remained within the normal limits. Occasionally it showed a slight increase or decrease, but these changes did not exceed 10 mm. Hg. A change in the pulse occurred only in cases of general malaise and nausea, which developed only when the stomach was full, as after a barium meal, and the patient was obliged to move.

13. In cases of heart disease the intravenous method is contra-indicated. If the disease is not severe, an intramuscular injection is well tolerated.

14. A dose of 0.5 mgm. in 1-2 cc. of vehicle had maximum efficiency and did not cause any noteworthy disturbance.

EUGENE T. LEDDY, M.D.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Robles C *Considerations Regarding the Clinical Picture of Extra Uterine Pregnancy* (Consideraciones acerca de la clínica del embarazo extra uterino) *Rev de ciruj Hospital Juarez Mex*, 1935 p 271

This article is based on 21 extra uterine pregnancies found in 1938 gynecological operations. Robles discusses the symptoms, signs, diagnosis, and differential diagnosis of unruptured tubal pregnancy, acute rupture of a tubal pregnancy, encysted non infected pelvic hematocele, infected hematocele, and the sequelae of ruptured tubal pregnancy. He emphasizes the diversity of the clinical pictures and symptoms which are liable to be overlooked under estimated or misinterpreted. Amenorrhea loses much of its diagnostic importance when it is not accompanied by the sympathetic signs and symptoms of pregnancy.

The condition most difficult to differentiate from acute rupture of an ectopic pregnancy is acute hemorrhagic pancreatitis. In hematocele the history is almost always typical and minute inquiry is the surest method of making the pre-operative diagnosis. Particularly significant symptoms are loss of consciousness and although less frequently noted by the patient, sudden enlargement of the abdomen. The pseudocysts formed by partial resorption of hematoceles are more frequent than is generally believed. The differential diagnosis from ovarian cyst is usually made only at operation. Even experienced surgeons often fail to recognize the nature of these formations. M F MOSS, M D

Portes L *Uteroplacental Apoplexy* (A propos de l'apoplexie utero-placentaire) *Gynec et obst* 1935 31 665

In 1922 Portes published a thesis on seventy two cases of uterine apoplexy associated with placental hemorrhage. In this article he reports twelve additional cases. In eleven of the latter hysterectomy was done and in one a low cesarean operation with out removal of the uterus.

The uterine lesions in this condition vary in degree and are distributed irregularly. The extravasation of blood is not most marked in the zone of the insertion of the placenta; it is found most frequently in the region where the broad ligaments have their origin. When the lower segment of the uterus is involved the hemorrhagic infiltration usually invades the base of the broad ligaments where it may form hematomas. The lesions are usually confined to the serosa but in some cases the muscle of the uterine wall is involved.

The author has not found any symptom characteristic of severe retroplacental hemorrhage. Hemor-

rhagic infiltration of the uterine wall (apoplexy) does not necessarily accompany retroplacental hemorrhage but is found in the majority of cases requiring surgical intervention. The wooden hardness of the uterus occurring in retroplacental hemorrhage without uterine apoplexy is not due to the lesion of the uterine wall but the uterine inertia persisting in this condition has been attributed to involvement of the musculature. However the author has found that in some cases in which the uterine inertia is absolute the hemorrhagic infiltration has not involved the muscles and in cases in which the muscles are involved the contractility of the uterus is relatively well maintained. In some cases in which the uterine musculature shows very little hemorrhagic infiltration it may be edematous. The edema may affect the contractility of the uterus but it is probable also that the uterine musculature is functionally sensitive to minor trauma and superficial lesions of the mucosa.

In uterine apoplexy vascular lesions may be present but are not always found. In four of the author's twelve cases the pathologist reported the walls of the uterine blood vessels entirely normal. In other cases sclerosis of various degrees was found but the intima was not involved and there was no evidence that rupture of these vessels had caused the hemorrhages. The latter were due rather to rupture of the capillaries.

In four of the twelve cases the blood pressure had been ascertained prior to the onset of symptoms. In two of these it was definitely above normal eight and fifteen days respectively before the placental hemorrhage occurred. In one case it was normal twelve days before the onset of symptoms but increased definitely in the days before the occurrence of the hemorrhage. In the fourth case there was no definite rise in the blood pressure. A rise in the blood pressure is probably a factor in the occurrence of retroplacental hemorrhage but the cause of the rise and just when it occurs cannot be determined.

As the author has studied chiefly the most severe forms of retroplacental hemorrhage associated with uterine apoplexy he favors hysterectomy as a method of treatment. In some cases of retroplacental hemorrhage delivery may occur spontaneously or labor may be induced by rupture of the membranes. However if delivery is followed by secondary hemorrhage the latter is often a sign of uterine apoplexy and hysterectomy is indicated as the uterine inertia is complete. If labor does not occur no attempt should be made to extract the fetus through the vagina. An abdominal operation is indicated and in most cases hysterectomy is the only procedure that will definitely prevent secondary bleeding. In some cases in which the uterus has not lost its contractility entirely a conservative cesarean operation may be

done While in general it is desirable to preserve the uterus, statistics show that women who have had retroplacental hemorrhage in one pregnancy are seldom successfully delivered of a living child subsequently Reports of twenty-two cases collected from the literature in which the uterus was not removed after a retroplacental hemorrhage show that the twenty-two women subsequently had sixty pregnancies, but only fifteen of the pregnancies resulted in the birth of a living child It is evident therefore that the pathological condition causing retroplacental hemorrhage greatly diminishes the motor function of the uterus

ALICE M MEYERS

Rivière, M.: A New Contribution to the Clinical Study of Placental Hemorrhages (Nouvelle contribution à l'étude clinique des hémorragies placentaires) *Gynéc et obst*, 1935, 31 697

Rivière reports a study of sixteen cases of placental (retroplacental) hemorrhage In none of them were there symptoms of eclampsia Only one patient complained of epigastric pain None showed edema Albuminuria was not a constant or early symptom In seven cases in which the urine was examined before the onset of symptoms, no albumin was found During the period of hemorrhage, but before evacuation of the uterus, the urine was free from albumin in five cases, contained a trace in four cases, and contained a definite amount in seven cases Of ten cases in which the urine was examined after evacuation of the uterus, albuminuria was present in seven

While hemorrhage is usually considerable, there may be no external bleeding prior to evacuation of the uterus, as in eight (50 per cent) of the author's cases The amount of bleeding at the time of evacuation of the uterus in the cases reviewed varied considerably The one symptom that was characteristic in all was wooden hardness of the uterus Bleeding results in the development of symptoms of anemia Symptoms of toxemia develop late and often reach their maximum at the time of the retraction of the uterus The toxemia is evidently the result, rather than the cause of the hemorrhage

In half of the reviewed cases labor had not begun at the time the placental hemorrhage occurred In six cases in which labor had begun the membranes were ruptured artificially and morphine was given In one case the fetus was delivered with forceps In nine cases the treatment was surgical There were four deaths within a few hours after delivery In one of the fatal cases a cesarean operation followed by hysterectomy was done In the three others a conservative cesarean operation was performed Of the five cases in which the patient recovered after operation, a conservative cesarean operation was done in one, a cesarean operation followed by hysterectomy in two, and a hysterectomy *en bloc* in two Only two children were born alive, and these died shortly after delivery

In the nine surgically treated cases in which the condition of the uterus was ascertained, the lesions in the uterine wall varied greatly in degree and ex-

tent In one case the uterus showed massive infiltration and in others less marked infiltration and ecchymoses In two it showed no lesion One of the patients with no uterine lesions died and the other was in a serious condition for several hours after the operation, while the patient with the massive infiltration made a good recovery without severe symptoms of toxemia The severity of the symptoms therefore showed no relation to the extent of the uterine lesion

The prognosis of retroplacental hemorrhage depends primarily upon the promptness with which the uterus is evacuated The author believes that cases seen early are treated best by rupture of the membranes and the administration of morphine, and cases seen late by hysterectomy *en bloc* In cases seen early in which rapid delivery by the natural route is impossible, the conservative cesarean operation is indicated

ALICE M MEYERS

Zocchi, S., and Robecchi, L.: A Roentgenological Study of the Topographic and Functional Changes in the Esophagus and Stomach During the Late Stages of Pregnancy (Studio radiologico delle modificazioni topografiche e funzionali dell'esofago e dello stomaco nelle gravidanze a termine) *Ginecologia*, 1935, 1 272

In the studies reported the authors used both a roentgenographic and an orthodiagraphic technique because of the distortion of the body produced by the pregnant uterus Their findings are summarized as follows.

1 The shape and position of the esophagus were the same as in non-pregnant women

2 Moderate atony of the esophagus was demonstrated by the opaque meal or, better, by opaque capsules of varying diameter While this was not sufficient to produce marked motor insufficiency, it caused definite functional changes.

3 Two types of stomach were observed—the "cow's horn" type and the "reversed L" type In one variety of the latter the caudal portion was displaced in the anteroposterior plane This was shown best in the lateral projection

4 Small amounts of the opaque meal taken successively revealed a decrease in the tone of the stomach

5 The peristaltic waves, even though quite variable, were always more accentuated than in the absence of pregnancy and were in direct relationship to the shape of the organ

6 The emptying time of the stomach varied from fifty minutes in the cases of "cow's horn" stomach to one and three-tenths hours in the cases of "reversed L" stomach and those in which the upper end of the stomach was displaced

EUGENE T LEDDA, M D

Caffaratto, T. M., and Pesce, C.: Hemolysis During Pregnancy (Sulla emolisi in gravidanza) *Ginecologia*, 1935, 1 380

The authors state that there are still many problems to be solved with regard to the anemias of

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Robles C. Considerations Regarding the Clinical Picture of Extra Uterine Pregnancy (Consideraciones acerca de la clínica del embarazo extra uterino) *Rev. de ciruj. Hospital Juárez Mex* 1935 p 271

This article is based on 21 extra uterine pregnancies found in 1938 gynecological operations. Robles discusses the symptoms, signs, diagnosis, and differential diagnosis of unruptured tubal pregnancy, acute rupture of a tubal pregnancy, encysted, non infected pelvic hematocoele, infected hematocoele and the sequelae of ruptured tubal pregnancy. He emphasizes the diversity of the clinical pictures and symptoms which are liable to be overlooked, underestimated, or misinterpreted. Amenorrhea loses much of its diagnostic importance when it is not accompanied by the sympathetic signs and symptoms of pregnancy.

The condition most difficult to differentiate from acute rupture of an ectopic pregnancy is acute hemorrhagic pancreatitis. In hematocoele the history is almost always typical and minute inquiry is the surest method of making the pre operative diagnosis. Particularly significant symptoms are loss of consciousness and although less frequently noted by the patient sudden enlargement of the abdomen. The pseudocysts formed by partial resorption of hematocoeles are more frequent than is generally believed. The differential diagnosis from ovarian cyst is usually made only at operation. Even experienced surgeons often fail to recognize the nature of these formations. M. E. MORSE, M.D.

Portes L. Uteroplacental Apoplexy (A propos de l'apoplexie utéro placentaire) *Gyné et obst* 1935 11 665

In 1929 Fortes published a thesis on seventy two cases of uterine apoplexy associated with placental hemorrhage. In this article he reports twelve additional cases. In eleven of the latter hysterectomy was done, and in one a low cesarean operation without removal of the uterus.

The uterine lesions in this condition vary in degree and are distributed irregularly. The extravasation of blood is not most marked in the zone of the insertion of the placenta. It is found most frequently in the region where the broad ligaments have their origin. When the lower segment of the uterus is involved, the hemorrhagic infiltration usually invades the base of the broad ligaments where it may form hematomas. The lesions are usually confined to the serosa but in some cases the muscle of the uterine wall is involved.

The author has not found any symptom characteristic of severe retroplacental hemorrhage. Hemor-

rhagic infiltration of the uterine wall (apoplexy) does not necessarily accompany retroplacental hemorrhage, but is found in the majority of cases requiring surgical intervention. The wooden hardness of the uterus occurring in retroplacental hemorrhage without uterine apoplexy is not due to the lesion of the uterine wall but the uterine inertia persisting in this condition has been attributed to involvement of the musculature. However the author has found that in some cases in which the uterine inertia is absolute the hemorrhagic infiltration has not involved the muscles and in cases in which the muscles are involved the contractility of the uterus is relatively well maintained. In some cases in which the uterine musculature shows very little hemorrhagic infiltration it may be edematous. The edema may affect the contractility of the uterus, but it is probable also that the uterine musculature is functionally sensitive to minor trauma and superficial lesions of the mucosa.

In uterine apoplexy, vascular lesions may be present but are not always found. In four of the author's twelve cases the pathologist reported the walls of the uterine blood vessels entirely normal. In other cases sclerosis of various degrees was found but the intima was not involved and there was no evidence that rupture of these vessels had caused the hemorrhages. The latter were due rather to rupture of the capillaries.

In four of the twelve cases the blood pressure had been ascertained prior to the onset of symptoms. In two of these it was definitely above normal eight and fifteen days respectively before the placental hemorrhage occurred. In one case it was normal twelve days before the onset of symptoms, but increased definitely in the days before the occurrence of the hemorrhage. In the fourth case there was no definite rise in the blood pressure. A rise in the blood pressure is probably a factor in the occurrence of retroplacental hemorrhage but the cause of the rise and just when it occurs cannot be determined.

As the author has studied chiefly the most severe forms of retroplacental hemorrhage a associated with uterine apoplexy, he favors hysterectomy as a method of treatment. In some case of retroplacental hemorrhage delivery may occur spontaneously or labor may be induced by rupture of the membranes. However if delivery is followed by secondary hemorrhage the latter is often a sign of uterine apoplexy and hysterectomy is indicated as the uterine inertia is complete. If labor does not occur no attempt should be made to extract the fetus through the vagina. An abdominal operation is indicated and in most cases hysterectomy is the only procedure that will definitely prevent secondary bleeding. In some cases in which the uterus has not lost its contractility entirely a conservative cesarean operation may be

logically [as well as clinically into two sub-groups depending upon whether or not there is impairment of liver function. Positive cases show early a bilirubinemia and usually end in true eclampsia.

In cases of hyperemesis, even if this condition is associated with retroversion of the uterus, hepatic insufficiency with respect to carbohydrate metabolism and often also with respect to the metabolism of biliary pigments and perhaps fats may be demonstrated.

In toxic jaundice of pregnancy, so far as the author could learn from the observation of only one case, the liver is not capable of metabolizing the carbohydrates and the biliary pigments completely, yet the hepatocellular lesions are slight and the functional capacity of the organ is restored to the normal within the first few days of the puerperium.

Some of the toxemias leave the liver in a badly damaged condition. This is true particularly in eclampsia in which the hepatocellular lesions persist for an indefinite period following termination of the pregnancy.

The nephropathies of pregnancy are less apt to cause late symptoms referable to hepatic insufficiency.

In hyperemesis and other minor toxemic syndromes the hepatocellular lesions are usually slight and the normal function of the liver is rapidly restored.

RICHARD E. SOMMA

LABOR AND ITS COMPLICATIONS

Holtermann, C. Failures in Operative Obstetrics in Home Practice and Their Treatment (Misslungene operative Geburtshilfe in der häuslichen Praxis und ihre klinische Behandlung) *Arch. f. Gynaek.*, 1934, 158: 222

In approximately 25,000 deliveries in a period of ten years there were 88 unsuccessful attempts at operative delivery. The incidence of the latter was therefore 0.35 per cent. More than half of the unsuccessful operative deliveries were attempts at forceps delivery. Of the latter, 85 per cent were attempts at high forceps delivery, 25 per cent, attempts at version, and the remainder, attempts at extraction. Two-thirds of the women were multiparas. The maternal mortality was very high, being 9.1 per cent. In 40 per cent of the cases the puerperium was febrile. The infants also were very unfavorably affected. Of those which were viable at the time the operation was attempted, only 43.2 per cent survived. Of those which were brought to the clinic, 72.9 per cent were saved.

In many cases the failure of the operation was due to failure to follow the simplest rules of operative obstetrics (in one-fifth of the cases in which the high forceps were used there was not the slightest indication for the operation), failure to recognize complications of labor, and too great faith in the possibility of vaginal delivery. In others it was due to incorrect operative technique and unfavorable external conditions.

With regard to the clinical management of cases without operation the author states that the interests of the mother should always be given first consideration as the child is not infrequently severely injured by the attempts at delivery. Even when the heart tones are good, there may be a fatal cranial injury, as was demonstrated in a case in which cesarean section was done. Spontaneous delivery should not be awaited routinely longer than six hours. If it does not occur within that length of time, termination of the labor as soon as the prerequisites are met is advisable. Careful observation of the course of labor gives the best results.

(FROMMOLT) LEO A. JUHNKE, M.D.

Brown, R. C. The Treatment of Obstetrical Disproportion. *Brit. M. J.*, 1935, 1: 1251

The author states that cases of gross disproportion can be recognized solely by the recognition of gross contraction of the pelvis.

In cases in which minor disproportion is thought to be present the outcome of labor is uncertain and a decision can be made only after labor is in progress.

Pelvic measurements are not unimportant, but must be considered in conjunction with all other factors before a prognosis is possible.

A vaginal examination should be made in every case during pregnancy.

Induction of premature labor for disproportion has no place in the delivery of a primipara. Induction of premature labor is a useful method in the delivery of a multipara when a record of former labor has been kept and can be used as a guide as to the ability of the patient to deliver herself.

The patient's capacity for delivery can be estimated from a trial of labor. It cannot be determined during pregnancy.

When induction of premature labor is practised in the case of the primipara it may be done unnecessarily and there is little to prevent the obstetrician from repeating this error in the patient's future pregnancies.

ROLAND S. CRON, M.D.

Motta, G. The Mechanism and Management of Brow Presentation (Sul meccanismo e sulla assistenza del parto nella presentazione di fronte). *Arch. di ostet. e ginec.*, 1935, 42: 203

According to the more recent statistics, the incidence of operative intervention in cases of brow presentation ranges from 51.5 per cent (Khreninger-Guggenberger) to 78.82 per cent (Cholmogoroff). According to earlier statistics, the gross infant mortality in cases of spontaneous delivery and cases of operative delivery considered together ranged from 25.4 per cent (Sjovall) to 46.5 per cent (Cholmogoroff). The more recent statistics of Stiglbauer show an infant mortality of 17.4 per cent in cases of spontaneous delivery and of 37.5 per cent in cases of operative delivery. The corresponding percentages reported by Khreninger-Guggenberger are 21 and 31.

According to the old statistics of Heinrich, the maternal mortality was 17 per cent, and according

pregnancy One of the methods of investigation which has yielded much valuable information is the study of the resistance of the red blood cells a method which after a survey of the literature the authors decided to use in the study they report in this article. The tests they selected were those of Viola and Simmel in which the erythrocytes are hemolyzed in varying dilutions of saline solution. Their studies were made on twenty normal non-pregnant women, twenty women in the second to eighth months of normal pregnancy, twenty-four women in either the ninth month of a normal pregnancy or the early days of a normal puerperium and twenty-five women with a pathological pregnancy and puerperium.

The findings of their studies are presented in four tables. They indicate that in normal pregnancy from the second to about the sixth month the resistance of the cells is generally increased, but the maximum resistance is not markedly changed. At about the sixth month there is a drop in the minimum and mean resistance which persists for the next two months but the maximum resistance is unchanged. In the ninth month the minimum resistance is quite variable but the mean resistance is decreased and the maximum resistance is not greatly changed.

In the pregnant women who had a complicating condition such as tuberculosis, diabetes, albuminuria or pernicious anemia the resistance of the erythrocytes varied but in general was diminished.

The authors discuss the role of the various factors which may influence the resistance of the red blood cells.

EUGENE T. LEDDY, M.D.

Zocchi S. Cova's Tender Costolumbar Point in Pyelitis of Pregnancy (Il punto doloroso costolombare del Cova nella pielite gravidica). *Ginecologia* 1935 1: 417.

For the diagnosis of pyelitis of pregnancy several points of tenderness have been described by various investigators. One group has stressed the diagnostic value of tenderness on pressure over McBurney's point but in some cases this sign is absent and in many of those in which it is present the pyelitis is confused with appendicitis or some other condition.

Another group of investigators have called attention to the fact that in cases of pyelitis pain may be elicited by exerting pressure through the vaginal route over the point where the ureter opens into the bladder.

Others have stressed the diagnostic value of general pain over the region of the kidneys and of tenderness on pressure over the last rib or over the quadratus lumborum.

However, none of these signs is constant and all of them are vague.

In 1925 Cova in re-investigating the problem discovered a small and well localized area which was not spontaneously painful but on slight palpation with the tip of the finger was found to be the site of intense pain which caused the patient to jerk and withdraw the back.

This point corresponded to the angle formed by the external margin of the quadratus lumborum with the last rib. Cova stated that this sign was sufficiently constant and characteristic to establish the diagnosis of pyelitis of pregnancy.

In a study of twenty-one cases Zocchi found that Cova's costolumbar tenderness was the most constant and reliable sign. It occurred in 95 per cent of the cases.

In a study of the problem from the anatomical and pathological points of view it was found that with the increasing urinary stasis which usually accompanies pyelitis presumably the intrarenal portion of the pelvis becomes distended and any pressure applied at the costolumbar angle is transmitted through the interposed tissue exactly to the intrarenal part of the renal pelvis or at least to a good portion of it. This explains the intense pain.

Roentgen examination showed that Cova's point corresponded to the extreme inferior portion of the renal pelvis.

RICHARD E. SOMMA

Valle G. On the Functional Capacity of the Liver in the Toxemias of Pregnancy and Their Sequelae and on the Obstetrical Use of Recent Methods of Testing of Hepatic Function (Sulla capacità di lavoro del fegato nelle tossicosi gravi dicke sui residui di queste e sulla utilizzazione nel campo ostetrico di recenti metodi di esplorazione funzionale). *Ginecologia* 1935 1: 433.

In an investigation of the physiopathological conditions of the various toxemias of pregnancy Valle studied a number of methods for testing the functional capacity of the liver. These included the levulose test, the van den Bergh reaction, the determination of urobilin and acetone bodies in the urine, the Takata-Ara reaction and the determination of the albumin globulin ratio of the serum. He found that the last two yielded contradictory results, but that the others are of value in demonstrating the multiple aspects of the hepatic disturbances accompanying the toxemias of pregnancy.

Physiopathologically it appears that these toxemias are accompanied by a partial impairment of hepatic function rather than by a complete hepatic insufficiency except perhaps in eclampsia in which hepatic insufficiency is nearly complete.

The levulose test was found positive in all cases of pregnancy toxemia coming under the author's observation. It appears therefore that the intermediary carbohydrate metabolism is always disturbed in these cases. It is possible however that in some of them the test is rendered positive also by a lowering of the renal threshold. The decrease in carbohydrate utilization explains the excellent results obtained with insulin in the treatment of certain toxemias of pregnancy.

Specifically it may be said that in eclampsia the functional capacity of the liver is very seriously impaired.

The complex group of the nephropathies of pregnancy (Leyden) may be subdivided physiopatho-

sedatives such as avertin and nembutal are also being tried

3 Methods to improve the flagging uterine forces Probably the best of these is the administration of $\frac{1}{2}$ c. cm of thymophysin followed, if necessary, by an additional $\frac{1}{4}$ c. cm after three-quarters of an hour, or the administration of 2 units of pituitrin or pitocin with, when necessary, repetition of the same dose after from thirty to fifty minutes. In using these drugs the obstetrician must be sure that there is no gross disproportion and no mechanical bar to delivery

4 Smoothing out of the vagina and vulva with ether soap. This will sometimes improve the character of the pains. It should be done gently and slowly

In cases of unreduced occiput-posterior position a thorough examination should be made under anesthesia and then either a manual or forceps rotation should be done. Care should be taken to be sure that the forceps are not applied over the forehead and occiput as such application will result in a tentorial tear with hemorrhage. In any manual or forceps rotation the fetal heart should be carefully watched for signs of fetal distress

In discussing the indications for the use of forceps the author expresses the opinion that the fear of childbirth is increasing because of the publication of figures of puerperal morbidity and mortality in the newspapers. Future mothers can be encouraged by the promise of anesthetics and analgesics in labor. Fear breeds inertia, and inertia often necessitates manipulative interference

Forceps are applied least frequently by midwives and most frequently by general practitioners. Midway between the two are the maternity hospitals. Before forceps are applied everything possible must be done to decrease fear and pain and to increase the expulsive force by safe methods

Cases of delayed labor in which these measures fail may be divided into two groups—those of true inertia, in which the pains are feeble, and those in which progress is hindered by some mechanical difficulty

If a sufficient quantity of sedatives is given without great concern for the ultimate welfare of the baby, most women with a "rigid cervix" and inertia will eventually deliver themselves. In cases of unrotated occiput-posterior head and a half dilated cervix much harm may be done by an unsuccessful attempt at forceps delivery

STANLEY C. HALL, M.D.

MISCELLANEOUS

Holland, E. • Maternal Mortality. *Lancet*, 1935, 228 973

The author discusses chiefly the maternal mortality in Great Britain. He compares the Newman Report on maternal mortality in Great Britain, which was compiled by a government agency, with the report of the New York Academy of Medicine

on the maternal mortality in New York City. There are many points of similarity in the two reports. According to both, the chief blame for a high maternal mortality lies with the obstetrical personnel of the area studied.

Holland states that care should be taken to avoid attaching too much significance to the increase in maternal mortality indicated by statistics, as there is now a closer scrutiny of maternal deaths and many of those formerly attributed to associated disease have been found due to poor obstetrical judgment or care. He believes that the mortality from abortion should be separated from the usual maternal mortality as the prevention of the former is entirely different from the prevention of the latter

Factors which have been of importance in the increase in maternal mortality in the last fifteen to twenty years are: (1) the frequent use of anesthetics and analgesics, (2) the growth of small institutions where obstetricians without sufficient training attempt difficult obstetrical procedures, (3) improper antenatal care leading to unnecessary interference, (4) interference with normal pregnancy or labor because of a desire on the part of the patient or physician, and (5) higher evaluation of the life of the infant because of the present-day limitation of the number of pregnancies

In discussing the lowering of the maternal mortality, Holland considers two aspects—one, the lowering of the rate in the "black" areas, and the other the lowering of the rate in the "favorable" areas. He cites an instance in which great progress was made in the former without a change of personnel. He states that lowering of the present lowest mortality rate will require increased training and a new obstetrical tradition as well as the development of an obstetrical conscience on the part of the individual physician. He concludes his article with a query as to the advisability of making maternity service a national service under centralized direction

HENRY S. ACKEN, JR., M.D.

Merletti, C.: The Indications for, and the Technique of, Hypodermic Injections of Oxygen in Obstetrics (*Impiego e tecnica delle iniezioni d'ossigeno per via ipodermica in ostetricia*). *Clin. ostet.*, 1935, 37 290

Merletti points out the advantages of administering oxygen subcutaneously in cases of anoxemia in which it is difficult or impossible to give oxygen by inhalation. Several devices have been constructed for the hypodermic administration of oxygen, but most of them are too complicated or too expensive for general use. The author describes and presents a photograph of a handy, inexpensive, and simple apparatus which he has used with very satisfactory results

At a pressure of 50 c. cm. this device delivers 1 liter of gas in five minutes. By means of it the author has administered as much as 2,000 c. cm. of oxygen in one day. He has used the apparatus with satisfactory results in cases of asphyxia of the

to those of Long it was 10 per cent. In the cases reviewed by von Franqué it was 6.1 per cent. According to recent statistics of Stiglbauer, Kheninger Guggenberger Alfieri Guicciardi and Vicarelli it has been reduced almost to zero.

From the study of the mechanism in these cases the author concludes that the most typical and most favorable diameter for engagement in brow presentation is the transverse that engagement occurs as the result of compression of the fetal head and not as the result of the substitution of a smaller diameter by alternate flexion and deflexion as Loflosson states that expulsion is facilitated by rotation of the nose anteriorly toward the symphysis, and that dystocia is due, not to failure of rotation, but to difficulty of engagement.

The author outlines the treatment as follows:

1. Cesarean section should be done in cases of even moderate pelvic contraction.
2. Podalic version should be done in the cases of multiparas.
3. In the cases of *primiparas* expectant treatment is indicated regardless of the position of the head.
4. When the use of forceps is indicated no attempt at rotation should be made until engagement has taken place.
5. When forceps extraction is attended with serious difficulty low cervical cesarean section is the procedure of choice unless it is contra indicated by sepsis. When sepsis is present failure of forceps calls for craniotomy even if the fetus is living.
6. When the fetus is dead craniotomy should always be done.

GEORGE C. FRYOLA M.D.

Keller R. A Consideration of Cephalic Presentation in the Occiput-sacral Position at the Level of the Superior Strait (Considérations sur la présentation du sommet en position occipito-sacrée au niveau du détroit supérieur) *Gynécologie* 1935 34 221

The author calls attention to a cephalic position which is rare—a position in which the fetal head enters the superior strait with the occiput directed anteriorly so that the sagittal suture occupies the anteroposterior diameter of the inlet. This position has nothing in common with the ordinary posterior position in which the head eventually rotates so that after completion of the internal rotation the sagittal suture lies in the anteroposterior diameter with the head resting on or near the perineum. The position described persists from the very onset of labor. According to recent statistics its occurrence is more frequent than had been commonly supposed but in most instances it is not recognized at the onset of labor.

This position is due not to a single cause but to an association of causes. The outstanding factor is contraction of the maternal pelvis particularly of the type with transverse contraction in which engagement is possible only in the anteroposterior diameter. The described position is favored also in pelvis with contraction of other types, namely infan-

tile pelvis with high sacral promontories, kyphotic pelvis, pelvis of the male type, and round pelvis, i.e., those with transverse and anteroposterior diameters of approximately equal length.

Another predisposing factor is the shape of the fetal head. The two types of fetal heads responsible are the head with flattening of the cranial vault and the hypscephalic head. The first type requires pronounced flexion whereas the second type requires only moderate flexion to permit engagement at the superior strait. At the onset of labor these heads are very round.

The author is of the opinion that the back considered by some to be a causative factor plays little or no part in the production of this position except when the neck is unusually short.

While it is possible for spontaneous delivery to take place in this condition operative delivery or cesarean section may be indicated. In cases of spontaneous delivery the head descends with the sagittal suture in the anteroposterior diameter throughout labor. In some cases the head has been observed to pivot slightly so that the sagittal suture lies in first one and then the other oblique diameter. In other cases the head has been observed to pivot so as to lie momentarily in the transverse diameter.

When delivery is attempted with forceps traction should be principally downward. However, in some instances extraction may be facilitated by rotation into one or the other oblique. Each case must be managed individually according to the circumstances present. Before cesarean section is considered an adequate test of labor should be made.

The author reports three cases.

HAROLD C. MACE M.D.

Lane Roberts C. S. The Use and Abuse of Forceps in Midwifery *Practitioner* 1935 134 751

With the newer forms of anesthesia and analgesia employed in lying in hospitals the use of forceps for delivery will probably increase. The midwife forceps are employed far more frequently than they should be and often far earlier in labor than is safe for either mother or child as shown by the fetal forceps records in emergency cases admitted from time to time to the larger maternity hospitals.

The straight and low type of forceps delivery in which the head is merely levered over the perineum is very different from curved and midpelvic type of instrumental delivery.

The use of forceps may sometimes be avoided by

1. Placing the mother on her back with her thighs flexed on the abdomen and instructing her how properly to work with her pains.
2. Proper selection of the analgesic or anesthetic. Sometimes a rectal injection of 30 gr. of chloral hydrate and 5 gr. of quinine hydrochloride may favor the progress of labor. In the cases of nervous women the rectal administration of paraldehyde may render forceps delivery unnecessary. Nitrous oxide oxygen anesthesia plus instruction of the patient as how to bear down will sometimes prove successful. Other

sedatives such as avertin and nembutal are also being tried

3 Methods to improve the flagging uterine forces Probably the best of these is the administration of $\frac{1}{2}$ c. cm of thymophysin followed, if necessary, by an additional $\frac{1}{4}$ c. cm after three-quarters of an hour, or the administration of 2 units of pituitrin or pitocin with, when necessary, repetition of the same dose after from thirty to fifty minutes In using these drugs the obstetrician must be sure that there is no gross disproportion and no mechanical bar to delivery

4 Smoothing out of the vagina and vulva with ether soap This will sometimes improve the character of the pains It should be done gently and slowly

In cases of unreduced occiput-posterior position a thorough examination should be made under anesthesia and then either a manual or forceps rotation should be done Care should be taken to be sure that the forceps are not applied over the forehead and occiput as such application will result in a tentorial tear with hemorrhage In any manual or forceps rotation the fetal heart should be carefully watched for signs of fetal distress

In discussing the indications for the use of forceps the author expresses the opinion that the fear of childbirth is increasing because of the publication of figures of puerperal morbidity and mortality in the newspapers Future mothers can be encouraged by the promise of anesthetics and analgesics in labor Fear breeds inertia, and inertia often necessitates manipulative interference

Forceps are applied least frequently by midwives and most frequently by general practitioners Midway between the two are the maternity hospitals Before forceps are applied everything possible must be done to decrease fear and pain and to increase the expulsive force by safe methods

Cases of delayed labor in which these measures fail may be divided into two groups—those of true inertia, in which the pains are feeble, and those in which progress is hindered by some mechanical difficulty

If a sufficient quantity of sedatives is given without great concern for the ultimate welfare of the baby, most women with a "rigid cervix" and inertia will eventually deliver themselves In cases of unrotated occiput-posterior head and a half dilated cervix much harm may be done by an unsuccessful attempt at forceps delivery.

STANLEY C HALL, M D

MISCELLANEOUS

Holland, E : Maternal Mortality. *Lancet*, 1935, 228 973

The author discusses chiefly the maternal mortality in Great Britain He compares the Newman Report on maternal mortality in Great Britain, which was compiled by a government agency, with the report of the New York Academy of Medicine

on the maternal mortality in New York City. There are many points of similarity in the two reports According to both, the chief blame for a high maternal mortality lies with the obstetrical personnel of the area studied.

Holland states that care should be taken to avoid attaching too much significance to the increase in maternal mortality indicated by statistics, as there is now a closer scrutiny of maternal deaths and many of those formerly attributed to associated disease have been found due to poor obstetrical judgment or care He believes that the mortality from abortion should be separated from the usual maternal mortality as the prevention of the former is entirely different from the prevention of the latter

Factors which have been of importance in the increase in maternal mortality in the last fifteen to twenty years are. (1) the frequent use of anesthetics and analgesics, (2) the growth of small institutions where obstetricians without sufficient training attempt difficult obstetrical procedures, (3) improper antenatal care leading to unnecessary interference, (4) interference with normal pregnancy or labor because of a desire on the part of the patient or physician, and (5) higher evaluation of the life of the infant because of the present-day limitation of the number of pregnancies

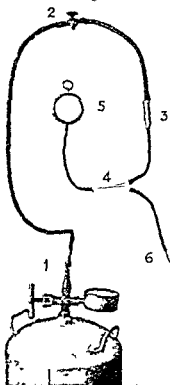
In discussing the lowering of the maternal mortality, Holland considers two aspects—one, the lowering of the rate in the "black" areas, and the other the lowering of the rate in the "favorable" areas He cites an instance in which great progress was made in the former without a change of personnel He states that lowering of the present lowest mortality rate will require increased training and a new obstetrical tradition as well as the development of an obstetrical conscience on the part of the individual physician He concludes his article with a query as to the advisability of making maternity service a national service under centralized direction.

HENRY S ACKEN, JR., M D.

Merletti, C. The Indications for, and the Technique of, Hypodermic Injections of Oxygen in Obstetrics (Impiego e tecnica delle iniezioni d'ossigeno per via ipodermica in ostetricia) *Clin ostet*, 1935, 37. 290

Merletti points out the advantages of administering oxygen subcutaneously in cases of anoxemia in which it is difficult or impossible to give oxygen by inhalation. Several devices have been constructed for the hypodermic administration of oxygen, but most of them are too complicated or too expensive for general use The author describes and presents a photograph of a handy, inexpensive, and simple apparatus which he has used with very satisfactory results

At a pressure of 50 c cm. this device delivers 1 liter of gas in five minutes By means of it the author has administered as much as 2,000 c cm of oxygen in one day. He has used the apparatus with satisfactory results in cases of asphyxia of the



Apparatus for the hypodermic administration of oxygen 1 Flexible rubber tubing attached directly to the outlet valve of the oxygen tank 2 Stopcock 3 Glass tube filled with absorbent cotton 4 Glass Y tube 5 Manometer calibrated from 0 to 80 cm of water 6 Hypodermic needle

mother and newborn infant eclampsia surgical shock postpartum collapse severe infections and hemorrhage

EDGEE T LEBBY M D

Brindeau A Hinglais H and Hinglais M A
New Method Permitting the Early Diagnosis
of Malignant Chorionepithelioma After the
Evacuation of a Mole (Nouvelle méthode per-
mettant le diagnostic précoce du chorio-épithéliome
malin après évacuation d'une mole) *Presse méd*
Paris 1935 43 2017

Hydatidiform mole results from a pathological proliferation of the chorionic tissue of the fertilized ovum, and chorionepithelioma may result from malignant degeneration of a hydatidiform mole. It is obvious that early diagnosis of such malignant degeneration is of the greatest importance.

The authors describe a method of early diagnosis which is based on the fact that in chorionepithelioma there is an abundant production of Prolan B. In a systematic study of the amount of Prolan B in the blood serum of twenty seven women who had evacuated moles and were followed up for a number of weeks after the evacuation they found evidences of malignancy in 4 cases.

The amount of Prolan B secreted is in direct relation to the number and vitality of the chorionic elements present. Prolan B can be titrated rapidly and accurately by a technique which the authors have described in a previous article. A series of titrations are made for a period of ten or twelve weeks after evacuation of the mole. If the patient is progressing toward recovery the Prolan B progressively decreases and after a varying period of time reaches zero. As a rule the fall is at first rapid and then slow. A sudden rise in the descending curve is a sign of beginning malignant degeneration and indicates immediate operation. It is the form of the curve and not the amount of hormone that determines the diagnosis. A diagnosis of beginning malignancy can be made in this way within a few weeks after the evacuation of a mole. In the authors four cases the positive results were verified histologically. The authors have never seen the hormone reappear after it has once disappeared completely. They emphasize the importance of a careful technique in carrying out the titrations.

AUDREY GOSS MORGAN M D

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Bernardini, R., and Caltabiano, D.: Changes in the Sugar Content of the Blood Following Unilateral and Bilateral Denervation of the Suprarenal Glands (Modificazioni del tasso glicemico in seguito alla denervazione unilaterale e bilaterale dei surreni) *Ann ital di chir*, 1935, 14 141.

The importance of epinephrine in carbohydrate metabolism is well known. The regulation of the output of epinephrine is determined principally by the stimuli reaching the suprarenal glands from the sympathetic nerve centers. The authors briefly review the literature on the influence of the sympathetic nerves on the function of the suprarenal glands, the relationship between the function of the pancreas and the suprarenals, and the effect of denervation of the suprarenals on carbohydrate metabolism.

In experiments on rabbits they found that unilateral suprarenal denervation caused an appreciable diminution, and bilateral denervation performed in 2 stages produced a constant and progressive diminution, in the blood sugar. On the basis of 100 representing the normal, the values averaged 86 after the unilateral operation and 76 after the bilateral operation. They conclude that such an effect favors the pancreatic island system and might prove of value in diabetes mellitus.

A LOUIS ROST, M D

Craciun, E. C., and Zanne, D.: Experimental Studies of Hydronephrosis (Contributions expérimentales à l'étude des hydronéphroses) *Ann. d'anat path*, 1935, 12 643.

The authors report experiments on rabbits and dogs with regard to the development of hydronephrosis following complete or partial ligation of the ureter. Complete ligation was done in the rabbits and partial ligation in the dogs. As a rule the ligation was followed by an increase in the size of the kidney due not only to stasis in the pelvis and the tubules, but also to an interstitial edema, which was always present in the first three days, and to interstitial and subcapsular hemorrhagic suffusions. Subsequently the massive dilatation of the calyces caused laceration of the columns of Bertin, one of the important factors in the development of hydronephrosis.

However, hydronephrosis did not result unless the kidney continued to secrete urine, and renal secretion does not occur unless the pelvis is drained by the normal route or by abnormal routes. Roentgenographic and histological studies after injection of the pelvis with dyes showed that in the first few days after obstruction of the ureter drainage occurs through the pores of the collecting tubules or by

reflux into the renal sinus, the renal tissue, or the blood vessels. The most important of these routes is the vascular. This vascular reflux is almost entirely venous. It is lymphatic only to a slight degree. In the experimental animals the veins were always greatly dilated and contained the dye material.

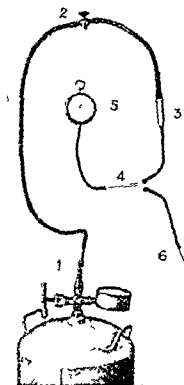
As the formation of the hydronephrosis progresses, the renal papillae are flattened and distorted and the collecting tubules become dilated with distortion of the convoluted tubules. Finally, the greater part of the renal parenchyma may be destroyed. In a few of the experimental animals, especially in dogs, atrophy of the kidney rather than hydronephrosis resulted from obstruction of the ureter.

ALICE M MEYERS

Pozzan, A.: The Histological and Functional Process of Repair of the Kidney Following Temporary Uronephrosis (Il processo istofunzionale di riparazione del rene nell' uronefrosi temporanea). *Arch ital di urol*, 1935, 12 475.

Pozzan reports a study he made of the process of repair in the kidney after the production of temporary urinary stasis was produced by blocking of the ureter. This process is a subject of controversy because the effect of intercurrent infection on the reparative process is still disputed, some urologists holding that infection nullifies the likelihood of restoration of normal function while others claim that infection only limits function. It is therefore impossible clinically to make an accurate prognosis of kidney function after uronephrosis. The problem is difficult to solve experimentally because the same procedure frequently leads to different results in different types of animals and it is difficult to select the right kind of animal for experimental investigation.

On the basis of the literature and his own investigations, Pozzan selected female dogs for his studies. He produced ureteral block by the method of Kairis. The bladder was opened in the midline and washed out with a 3 per cent solution of potassium permanganate. The ureters were then identified and into one were inserted a few sterile lead shot and a cylinder of metal 3 cm. long and of the same caliber as the ureter. The cylinder was pushed beyond the intramural portion of the ureter and anchored in place with a silk stitch. The vesical end was closed by a pursestring suture. After the operation the position of the shot was checked up roentgenographically. If the shot and the cylinder were in the bladder there was no ureteral block and therefore no urinary stasis. By this technique, injury of the ureteral wall was avoided and the duration of the uronephrosis could be accurately determined roentgenographically.



Apparatus for the hypodermic administration of oxygen. 1 Flexible rubber tubing attached directly to the outlet valve of the oxygen tank. 2 Stopcock. 3 Glass tube filled with absorbent cotton. 4 Glass Y-tube. 5 Manometer calibrated from 0 to 80 cm of water. 6 Hypodermic needle.

mother and newborn infant eclampsia surgical shock postpartum collapse severe infections and hemorrhage

ELCENE T LUDY M D

Drindeau A Hinglais H and Hinglais M 4
New Method Permitting the Early Diagnosis
of Malignant Chorionepithelioma After the
Evacuation of a Mole (Nouvelle méthode per-
mettant le diagnostic précoce du chorio-épithéliome
malin après évacuation d'une mole) *Presse méd.*
Paris 1935 43 1717

Hydatidiform mole results from a pathological proliferation of the chorionic tissue of the fertilized ovum and chorionepithelioma may result from malignant degeneration of a hydatidiform mole. It is obvious that early diagnosis of such malignant degeneration is of the greatest importance.

The authors describe a method of early diagnosis which is based on the fact that in chorionepithelioma there is an abundant production of Prolan B. In a systematic study of the amount of Prolan B in the blood serum of twenty seven women who had evacuated moles and were followed up for a number of weeks after the evacuation, they found evidences of malignancy in 4 cases.

The amount of Prolan B secreted is in direct relation to the number and vitality of the chorionic elements present. Prolan B can be titrated rapidly and accurately by a technique which the authors have described in a previous article. A series of titrations are made for a period of ten or twelve weeks after evacuation of the mole. If the patient is progressing toward recovery the Prolan B progressively decreases and after a varying period of time reaches zero. As a rule the fall is at first rapid and then slow. A sudden rise in the descending curve is a sign of beginning malignant degeneration and indicates immediate operation. It is the form of the curve and not the amount of hormone that determines the diagnosis. A diagnosis of beginning malignancy can be made in this way within a few weeks after the evacuation of a mole. In the authors' four cases the positive results were verified histologically. The authors have never seen the hormone reappear after it has once disappeared completely. They emphasize the importance of a careful technique in carrying out the titrations.

ARNDY GOES MORAN M D

of any malignant renal tumor. Care should be taken to remove as much of the perirenal fatty tissue as possible as this may be involved by the neoplasm. The surgeon should feel for extension along the renal pedicle or retroperitoneal lymph nodes and remove all involved portions if possible. If a few involved lymph nodes must be left, it may be advantageous to place a large rubber tube in this region for the direct insertion of radium. In some cases, removal of these tumors may be rather difficult and care must be exercised to avoid injury to the diaphragm, retroperitoneal duodenum, vena cava, and other important structures. It is necessary to remove only a moderate length of ureter. Of the sixty-five cases reviewed, nephrectomy was performed in only twenty. The operability was therefore about 30 per cent.

Of the forty-four patients who have been traced up to the present time, forty are known to be dead. No patient treated by irradiation alone is known to be living. Of the twenty patients subjected to nephrectomy, fifteen are dead, four are living, and one cannot be traced. Of the four patients who survived nephrectomy, only two have survived for any appreciable length of time (thirteen and two-tenths years and three and two-tenths years, respectively). The two others were operated on too recently (six months ago) to permit conclusions regarding the final result.

Taylor, W. N.: Papillary Epithelioma of the Renal Pelvis. *J. Urol.*, 1935, 33, 531.

The authors add 3 cases of papillary carcinoma of the renal pelvis to the 234 recorded in the literature. In 2 of their cases the diagnosis was made before operation. The operations performed in the 3 cases were, respectively, nephro-ureterectomy, nephrectomy with partial ureterectomy, and nephrectomy.

The cause of papillary carcinoma of the renal pelvis is unknown, but it is probable that the development of the tumor is initiated by some type of chronic irritation in the pelvis. In a few cases the carcinoma has followed a chronic infection, and in about 5 per cent has been found associated with calculi.

Three-fourths of all tumors of the renal pelvis are papillary in structure. The majority of these are reported as benign microscopically. However, their benignancy can be trusted for only a short time as they may become malignant *in situ* or constitute the focus for further implantation. Their chief characteristic is surface metastasis. According to the theory most widely accepted, propagation is due to detached cells carried by the urine. By some, however, metastasis is believed to occur by way of the lymphatics. The hypothesis of co-existing lawless cells scattered throughout the urinary mucosa is also tenable. While these tumors rarely show a marked tendency to invade the renal pelvis or parenchyma, a moderate tendency toward infiltration of the renal parenchyma was noted in all of the author's cases. The kidney is usually destroyed by

pressure atrophy secondary to obstruction at the pelvic outlet or in the ureter (hydronephrosis).

Hematuria is the most frequent and usually the initial sign. In all of the author's cases there was profuse bleeding at some time. Pain is a variable symptom and depends upon distention of the pelvis as the result of obstruction by a clot or tumor at the ureteropelvic junction. Lumbar aching or discomfort may be produced by hydronephrosis. Ureteral colic may be caused by the passage of blood clots or tissue fragments. In some cases pain may be absent. As a rule the kidney is not palpably enlarged unless infection or hydronephrosis complicates the disease. In some cases tissue particles may be passed in the urine. Bladder symptoms depend upon irritation. Frequency, dysuria, and inability to void are usually due to stone, infection, or blood clots in the bladder. Loss of weight, anemia, and asthenia are very late manifestations and usually associated with metastasis.

The lesion is practically never diagnosed from the history, symptoms, or findings of physical examination. Cystoscopy is of definite value only in cases of bladder tumor located about, or protruding from, the orifice of the ureter of the involved kidney. When such a cystoscopic finding is associated with a filling defect in the renal pelvis or calyx, a diagnosis of tumor of the renal pelvis is justifiable. Pyelography offers little aid as other conditions may produce the same picture. However, the association of a filling defect in a kidney of normal size and outline with profuse hemorrhage should arouse suspicion of such a lesion, especially if the defect is predominantly in the renal pelvis.

The tendency toward implantations on the mucosa of the ureter and bladder demands surgical removal of the kidney, the ureter, and a section of the bladder wall for complete eradication of the disease.

LOUIS NEUWELT, M.D.

Jansson, G.: Roentgen Diagnosis of Papilloma of the Kidney Pelvis (Die Roentgendagnose bei Nierenbeckenpapillom). *Acta radiol.*, 1935, 16, 354.

The author states that although papillomas of the renal pelvis are uncommon, they occur more often than is usually believed. They are often unrecognized because of the difficulties in the diagnosis. Clinically, they resemble tumors of the renal parenchyma. The most characteristic sign is hematuria, which is profuse, painless, and unpredictable, and begins and ends spontaneously. The nature of the tumor may be detected by finding, in the bladder, implantation metastases with a papillomatous structure like that of the parent tumor. The importance of further diagnostic aid is emphasized by the fact that not infrequently the kidney looks and feels entirely normal at exploration, and in several instances has been replaced without removal of the lesion. X-ray examination offers some evidence which aids in deciding the course to pursue at operation. Papillomas of the renal pelvis produce filling defects in the pyelograms, the nature of which

Of the twenty six dogs treated in this manner three died of peritonitis ten eliminated the block from three to six days after the operation seven eliminated it between the seventh and tenth days and in the cases of the others the tube was removed operatively after twenty days. Pyelography and chromocystoscopy were carried out with abrodil and lithocarmine respectively in half the strength used in clinical cases. Detailed anatomical and histological studies were then made on the sacrificed animals.

When the urinary stasis so produced did not last more than twelve days it caused both gross and microscopic changes in the kidney some of which (an increase in the size and weight of the organ, dilatation of Bowman's capsule narrowing of the vascular loops an increase in the diameter of the tubules with degeneration of their epithelium edema, and the interstitial exudation of lymphocytes) were transitory, and others (a decrease in the size and weight of the organ after several months dilatation of the calyces pelvis and ureter, hyperplasia of the interstitial connective tissue) were more persistent but non progressive. When the urinary stasis lasted six days the latter did not prevent perfect restoration of the ability of the kidney to eliminate abrodil by the end of two weeks and to eliminate indigocarmine by the end of two months. When the block lasted twelve days the elimination of abrodil did not become normal until after a period of thirty days and the elimination of indigocarmine did not become normal until after one hundred days.

Following urinary stasis of twenty days duration the kidney did not recover—not even temporarily—its normal anatomical and functional characteristics. The renal parenchyma underwent progressive atrophy and sclerosis and after a few months the kidney lost all its filtering and secretory power.

The article is illustrated with numerous photographs and photomicrographs of the typical changes observed.

EOGENE T LEDDY M.D.

Franceschi F. Renal Tuberculosis and Pseudoneoplastic Renal Tuberculosis (Tuberculosis renale e tubercolosi renale pseudo neoplastica). Clin chir 1935 11 215

The author reports two cases of renal tuberculosis in which there was hematuria of a neoplastic character and the pyelograms suggested the presence of a renal tumor. In one case operation revealed a large tuberculous kidney with ulceration of the papilla, pyelitis and peripelitis and in the other a single tuberculous nodule which macroscopically resembled a tumor. In one case the diagnosis was made before the operation from the finding of tubercle bacilli in the urine. In the other it was made when the kidney was examined microscopically.

The author discusses the nodular form of renal tuberculosis which he calls renal tuberculosis.

PETER A. ROSE M.D.

Priestley J. T. and Broders A. C. Wilms Tumor. A Clinical and Pathological Study. J Urol 1935 33 544

Priestley and Broders review sixty five cases of Wilms tumor observed at the Mayo Clinic. Thirty seven of the patients who were in advanced stages of the disease when first examined were given only irradiation or symptomatic treatment. The remaining twenty eight were treated surgically. In twenty cases nephrectomy was done. Forty four of the sixty five patients were followed to the present time.

It is the authors' opinion that the proper treatment of these tumors should include both irradiation and surgical removal. Although in one of the cases reviewed the patient has lived for thirteen and a half years following nephrectomy without supplementary irradiation the remarkable immediate effect of roentgen therapy on highly malignant tumors of the type discussed renders this form of treatment a valuable adjunct to surgery.

Radium and deep roentgen therapy have been used and sometimes both in the same case. Today deep roentgen therapy is usually employed at the Clinic. At least one course of treatment should be given pre-operatively and sometimes a second series is indicated. The dose is regulated by the amount of exposure which will be tolerated and by the therapeutic response as manifested by a decrease in the size of the tumor. The optimal time for operation is when the maximal therapeutic response is obtained prior to a secondary increase in the size of the tumor. The length of time required for pre-operative irradiation and the desired diminution in the size of the mass commonly varies from three to six weeks. In some cases it seems desirable to give pre-operative irradiation over the thorax and abdomen in addition to direct treatment of the mass.

At the time of operation a large rubber tube may be left for the direct insertion of radium into the wound in the immediate postoperative period. Unless radium is used in very large doses its effect when it is employed in this manner is purely local and extends only a centimeter or two in each direction. This method of irradiation is probably most effective when there is a definite area of involved tissue which cannot be removed surgically. Radium should not be used in this manner to the exclusion of postoperative roentgen therapy.

Another course of roentgen therapy should be administered during the early postoperative period, and further courses of treatment should be given subsequently. The authors believe that in the past they have been too prone to use further treatments with roentgen rays only if metastasis or local recurrence became evident. It seems advisable to irradiate again every six to eight weeks for at least five or six months following operation even if there is no evidence of recurrence. The authors state that in the past one of the main errors in their use of irradiation in these cases was inadequate dosage.

The general principles in the surgical removal of Wilms tumors are similar to those in the extirpation

tous mass at the external margin of the left ureteral orifice, and an intra-ureteral mass about 1 cm above this orifice.

Ascending pyelography with uroselectan showed the bilateral lesions very distinctly.

Histological examination of a small piece of tissue removed during cystoscopy disclosed the presence of an adenomatous papilloma.

The author believes that the development of adenomatous polyposis of the renal pelvis and ureter is favored by urinary calculosis, chronic infections of the upper urinary passages, and congenital malformations of the kidney.

The diagnosis is usually difficult. Cystoscopy and the examination of the urinary sediment may be of some aid, but ascending pyelography is the most reliable method for prompt detection of the lesion.

For unilateral cases of papilloma of the renal pelvis, nephro-ureterectomy has been advised to prevent carcinoma of the ureter and urinary bladder which is apt to ensue in the presence of residual neoplastic tissue. The treatment of bilateral cases is extremely difficult. Only one case in the literature was treated successfully by diathermic coagulation.

The prognosis in these cases is very unfavorable. Death usually occurs rapidly either because of malignant degeneration of the lesion or because of a complication such as severe hemorrhage, hydronephrosis, or pyonephrosis.

RICHARD E. SOMMA.

BLADDER, URETHRA, AND PENIS

Ormond, J. K.: Interstitial Cystitis. *J. Urol.*, 1935, 33 576

In discussing the diagnosis of interstitial cystitis the author says: "In no condition can the diagnosis be made from the history with greater ease than in a severe case of interstitial cystitis. The association of pain with night and day frequency, in the absence of pus or blood in the urine, would always make one suspect interstitial cystitis, and the validity of the suspicion can be tested very simply by catheterizing the patient and determining the capacity of the bladder. If slight or moderate distention of the bladder causes pain, rapidly becoming unbearable as the distention increases, the diagnosis becomes probable; and if, after the pain has been produced as the bladder empties, a little blood flows out with the last of the fluid, the diagnosis becomes practically certain, even without a cystoscopic examination."

With regard to treatment, he says: "Treatment resolves itself into three components. First and most important is the local treatment to the bladder; second, the treatment of the general condition of the patient, and third, treatment of the concomitant granular urethritis. Treatment of the urethritis consists chiefly in dilatation of the urethra: general treatment consisting of eliminating foci of infection, correcting anemia, enforcing rest, and treatment of any other condition which may be present." The methods of treating the local bladder condition which seemed to yield the best results are: (1) rapid dis-

tention of the bladder under anesthesia, (2) fulguration of the ulcer and of some of the surrounding mucous membrane, and (3) resection of the ulcer. Resection of the presacral nerve has not produced uniformly successful results.

With regard to the prognosis, the author says that in almost all cases the condition can be greatly relieved and the patient kept reasonably comfortable. In the early stages there is a tendency toward cure if the treatment is not interrupted.

HENRY L. SANFORD, M.D.

Smith, G. G.: The Treatment of Bladder Tumors. *Pennsylvania M. J.*, 1935, 38: 569

The author reviews 150 cases of bladder tumors observed in his own practice, describing the treatment and reporting the results obtained in each type. He finds, in general, that papillary tumors occur in younger individuals, while infiltrating tumors have a high incidence in older persons. According to his experience it appears that benign papillomas not infrequently undergo malignant degeneration. Bladder tumors in patients under the age of fifty years show less malignancy than bladder tumors developing in persons over the age fifty.

Smith believes that single pedunculated tumors may be destroyed or removed with fairly good results without removal of the entire thickness of the bladder wall. Radium may be of value in a limited group of cases. In cases of multiple tumors of the constantly recurring type which cannot be controlled by other methods cystectomy with transplantation of the ureters into the bowel or the abdominal wall is indicated. The author believes that this method should be employed, not as a last resort, but before appreciable changes occur in the upper urinary tract, while the patient is still in good condition.

THEOPHIL P. GRAVER, M.D.

Ormond, J. K.: Non-Purulent Urethritis in Women. "Granular Urethritis—Cystalgia." *J. Urol.*, 1935, 33: 483.

In non-purulent urethritis there are urinary symptoms with no or only very minor abnormal urinary findings. Of all the common minor ailments of women which do not threaten life and as a rule do not interfere seriously with the usual activities of life this is the one which most frequently comes to the attention of the urologist. All gynecologists seem to have worked out almost identical methods of treating the condition.

The author discusses the occurrence, etiology, pathology, symptomatology, diagnosis, and treatment, dealing with these subjects as if all forms of non-purulent urethritis or cystalgia were different manifestations of one condition.

He states that non-purulent urethritis is an exceedingly common ailment which often receives scant attention from its victims and is much neglected by physicians in general. It is found at all ages after puberty, but is most frequent in the middle years of life.

depends upon the size, shape and number of the lesions present

► The author reports two cases of papilloma of the renal pelvis with particular emphasis on the roentgen findings

LEO M. ZIMMERMAN M.D.

François J. The Diagnosis and Treatment of Ureteral Calculi (Diagnostic et traitement des calculs de l'uretère) *J. d'uról méd et chir* 1935 39 219

The clinical symptoms of ureteral calculi are variable. In some cases there is little pain. In others there are attacks of pain resembling renal colic with pyuria and hematuria or anuria. In a third group the pain is localized at the site of the calculus. Stones at the lower end of the ureter cause symptoms of cystitis. Examination of the urine usually discloses pus and blood. In some cases the kidney on the side of the calculus is enlarged.

In the presence of any of the symptoms, a roentgenogram should be made. A plain roentgenogram will often show the shadows of ureteral calculi but as a rule will not be sufficient to establish the diagnosis. If a shadow is found in the region of the ureter a roentgenogram should be made with an opaque sound in the ureter. Blocking of this sound by contact with the shadow to be identified indicates a ureteral calculus. A second roentgenogram may be made at a different angle to confirm the findings in the first roentgenogram. If the opaque sound does not reach the opaque shadow a ureterogram must be made. The ureterogram may show the opaque medium blocked at the level of the suspected shadow. This indicates a ureteral calculus. If the opaque medium passes beyond the shadow but encloses it the shadow is within the ureter. A second roentgenogram may be taken at a different angle to confirm the findings. If the shadow is entirely outside the ureter, it is not due to a ureter calculus.

If the opaque sound goes past the shadow in the roentgenogram but is in contact with the shadow a roentgenogram should be made at another angle. If in the second roentgenogram the shadow remains in contact with the opaque sound the diagnosis of ureteral calculus can be made. If the opaque sound is more than 2 cm. from the shadow the shadow is probably extra ureteral. If the sound is less than 2 cm. from the shadow a ureterogram must be made. Even if ureterography is not necessary for the diagnosis of ureteral calculus it should be done routinely to determine the size of the ureter and of any stenosis below the calculus and if possible the degree of dilatation above the calculus.

Although little or no urine may be obtained from the kidney on account of obstruction of the ureter it has been found that after removal of the stone kidney function often becomes normal rapidly.

When a ureteral calculus is not opaque to the X-rays and does not show in the roentgenogram as in 13 per cent of the author's cases the presence of the calculus may be demonstrated by blocking of the opaque sound in the ureter or by the ureterogram.

In some cases a ureteral stone may be removed by leaving an indwelling catheter in place for twenty four hours. When this is done its expulsion may be facilitated if glycerine or an oil is injected through the catheter. Repeated dilatations of the ureter may remove the stone. If the stone is situated in the last centimeter of the ureter, it may be removed by a forceps introduced through the cystoscope. If the stone is not visible the urethral meatus may be sectioned with the electric current with the use of a specially constructed electrical sound and the cutting rather than the coagulating current. In some cases open operation on the ureter is necessary. In others the kidney may be so severely injured by prolonged obstruction due to the stone that nephrectomy is indicated. As a rule the author prefers secondary nephrectomy rather than nephrectomy at the time of the operation for removal of the stone. Of thirty five cases of ureteral stone in which open operation was necessary, primary nephrectomy was done in only three (8.9 per cent).

Of the author's series of fifty three cases the stone was removed by cystoscopic methods in sixteen. Of the thirty five cases in which open operation was done, a primary nephrectomy was performed in 8.9 per cent and a secondary nephrectomy in 6.6 per cent. There was no operative mortality. Recurrences developed in three cases. Improvement in renal function was demonstrated in eleven cases. It was 100 per cent in two cases, marked in six cases and less marked in three cases. ALICE M. MEYERS

Olper L. A Case of Bilateral Adenomatous Polyposis of the Ureter and Renal Pelvis (*Adenoma ad un caso di poliposi adenomatosa bilaterale dell'uretore e del bacinetto*) *Arch. ital. di urol.* 1935 12 557

Olper reports a case of bilateral polyposis involving the ureter and the renal pelvis in a man forty eight years old. The patient stated that about ten years previously he had been seized with pain of moderate intensity which originated in the left groin and radiated toward the hypogastric region. The condition grew worse and ultimately there were frequent attacks of hematuria. Treatment with urinary anti-epitics resulted in some relief but later an exacerbation of the symptoms occurred. The exacerbation was followed by an asymptomatic interval of seven years during which he felt perfectly well. At the end of that time he suddenly experienced a severe recurrence. The pain involved both lumbar regions radiated toward the lower abdominal quadrants and was accompanied by severe hematuria.

Examination by the author disclosed bilateral tenderness on deep pressure over the region of the ureters particularly the left one.

Descending pyelography made with the injection of Uroselectan B yielded pyelograms in which the important structures were barely visible.

Cystoscopy and catheterization of the ureters revealed the presence of a non bleeding papilloma

into the prostatic urethra, one on the right side and one on the left side. From the opening on the right side masses of mucopurulent material were discharged. When the opening was enlarged by electrosurgery, a calculus was discovered and dislodged into the bladder. This was subsequently expelled spontaneously during micturition and found to be an agglomeration of small calculi. The patient recovered rapidly. The prostatic calculus and diverticula were undoubtedly the cause of the urinary obstruction and infection.

In the second case a transurethral resection for vesical neck obstruction had been done in 1930. At that time several small concretions were found in the debris removed by repeated lavage, and a roentgenogram showed several small calculi still present near the vesical neck. The condition was much improved by the operation and the patient did not come under observation again until 1934, when he had almost complete retention. A review of the history revealed that, in 1930, urethrocystoscopic examination had demonstrated the presence of diverticular openings in the prostatic urethra. Urethrography carried out by the author disclosed bilateral diverticula with evidence of calculi and an associated vesical neck obstruction due to prostatic hypertrophy. The diverticular openings were enlarged, numerous small calculi were removed, and the vesical neck obstruction was relieved by the use of the combined coagulating and cutting current.

In the third case the patient gave a long history of partial urinary obstruction and urinary infection. In the last few years the symptoms had become more severe, probably because of the associated calculus formation. The plain roentgenogram revealed large intraprostatic calculi, and urethrography showed diverticula which could be superimposed exactly on the shadows of the calculi. Urethrocystoscopy disclosed the orifices of the diverticula and hypertrophy of the lateral lobes. A combined transurethral electrosurgical operation was done to open the diverticula, remove the calculi, and reduce the lateral lobe obstruction. The patient made a good recovery and eliminated five large and forty-three small stones spontaneously.

The possibility of calculus formation in prostatic diverticulitis and its clinical significance are clearly shown in these cases. More cases of this type will undoubtedly be reported as attention is called to them. The author emphasizes the value of urethrography in the diagnosis of prostatic diverticula. He states that the stones in a diverticulum are evidently formed *in situ* as a result of stagnation and infection of urine in the diverticulum.

Alice M. Meyers

Heitz-Boyer: Prostatic Diverticulitis and Cancer of the Prostate (Maladie diverticulaire prostatique et cancer de la prostate) *J. d'uról. méd. et chir.*, 1935, 39, 386

Heitz-Boyer states that prostatic diverticula may be complicated by various conditions which he

believes are the direct result of the inflammatory changes in and around the diverticulum. He regards it as reasonable to suppose that chronic inflammatory changes may ultimately result in malignant degeneration in the prostatic tissues as in other tissues. However, between the simple inflammatory lesions and the true malignant neoplasm there are many intermediate stages. It is in these stages that treatment can be effectively instituted and the development of malignancy prevented.

The author reports a case in which there was chronic urinary obstruction due to prostatic enlargement. On palpation, the prostate was found to be hard, but not nodular. Urethrography showed a diverticulum on the right side, and urethrocystoscopy disclosed inflammatory polypoid vegetations which made it impossible to detect the orifice of the diverticulum. The diverticulum was opened and inflammatory tissue resected by a two-stage transurethral operation. Careful histological examination of the resected tissue showed inflammatory changes and a papilloma of the stratified epithelial type, but no malignancy. The patient was entirely relieved of the urinary symptoms for several months. He then developed a recurrence which was found to be due to proliferation of scar tissue acting as a foreign body. When this was destroyed by electrocoagulation, improvement continued without interruption.

In spite of the relief of the urinary symptoms, the prostate still remains abnormally hard and there is some subprostatic prolongation of the lateral lobes, especially the left. However, there are no clinical symptoms of malignancy. The author believes that in this case the inflammatory changes were of the type that tend toward malignant degeneration, and that the resection of the inflammatory tissue and the clearing out of the diverticulum, which was evidently the primary site of the inflammatory changes, may have prevented the development of cancer.

Alice M. Meyers

Fuchs, F.: In What Cases Should Transurethral High-Frequency Operations on the Neck of the Bladder Be Performed? (Bei welchen Fällen soll die transurethrale Hochfrequenzoperation des Blasenhalbes angewendet werden?) *Wien. klin. Wchschr.*, 1935, I, 149

At the present time in Vienna, urologists are using instruments of two new types which meet every conceivable requirement of transurethral operations on the neck of the bladder and render it improbable that further technical improvement will be made very soon. These two instruments are the Bitschaj-Zeiss and Kornitzer-Leiter prostate cutters.

Because of the stabilization of the technical development resulting from the use of these instruments it is possible and necessary to determine the indications for the transurethral procedure for diseases of the neck of the bladder and the prostate with a certain degree of accuracy. The patient with prostatic disease whose kidneys are in too poor con-

The two most common symptoms are frequency and dysuria. Frequency is the chief symptom and often the only one. It is apt to be more troublesome in the morning than during the rest of the day. Other common symptoms are urgency, a sense of fullness or incomplete emptying of the bladder, suprapubic pressure and hematuria.

In the majority of cases the diagnosis can be made with the aid of the catheter. When in the presence of the symptoms mentioned the catheterized specimen contains no pus or blood or only an occasional pus cell is found per low power field in the uncentrifuged specimen the symptoms are probably of urethral origin. The urethra is nearly always unduly sensitive to the passage of the catheter. It is often found thickened on vaginal palpation, and its caliber is apt to be narrowed.

Differentiation from other conditions is usually not difficult. Purulent urethritis is recognized from the presence of a purulent discharge or the expression of pus when the urethra is milked through the vagina. Abscess of Skene's glands may cause difficulty. In cases of suburethral abscess the symptoms may be similar but pus may be expressed and the swelling appreciated by vaginal palpation. Urethral caruncle and other lesions of the vestibule which may cause urinary symptoms are usually not difficult to rule out. Urethral stricture can be recognized by using bulbed bougies. Interstitial cystitis must always be kept in mind, especially if there is nocturia.

Other conditions to be considered are vesical calculus, ureteral calculus, ureteral stricture, early tuberculosis, late tuberculosis with a healed contracted bladder, external pressure on the bladder, polyuria due to diabetes or nephritis, chemical irritation, the overflow of retention either post-operative or due to cord bladder, herpes and intra-urethral chancre.

Although inspection, palpation and catheterization are usually sufficient for the recognition of non-purulent urethritis, endoscopy is usually necessary to confirm the diagnosis and for treatment.

At present it is impossible to say with certainty whether the various endoscopic and cystoscopic appearances described are due to different grades of the same process or are the results of various causes and based on wholly different reactions and pathological processes.

In summarizing the author states that granular urethritis or cystalgia is a congestive urethrotrigonitis with secondary infection of the urethral glands or alveoli which most often is due to a coccal. In a small number of instances ischemia may play the same rôle as congestion in interfering with the nutrition of the mucosa. This accounts for the cases in which the condition accompanies senile vaginitis and other senile changes.

Treatment has two purposes: first the immediate relief of symptoms and second the prevention of recurrence. It consists of four parts: treatment of the local inflammation of the mucous membrane

measures to render the urine bland and non-irritating, relief of the local congestion, and the elimination of foci of infection.

The local inflammation is treated by dilatation of the urethra with graduated dilators such as Hegar's dilators and the instillation into the bladder through the urethra of argyrol, mercurochrome, or some other antiseptic. The dilatation massages the mucous membrane, stretches the submucous tissues, milks the alveoli and at the same time tends to remedy any strictures that may be present. This treatment is given once or twice a week. In many cases the symptoms disappear with no other treatment. When this procedure does not give relief the application through the endoscope of a 10 per cent solution of silver nitrate to the upper urethra and bladder neck often has striking results.

The immediate treatment of local congestion consists in the use of hot douches, hot sitz baths, the application of hot towels to the perineum and attention to the bowels. Correction of faulty sex habits may be necessary. It is important in the treatment to keep the patient's temperament in mind. Sedatives are often of value as the symptoms may be exaggerated by general hyperirritability.

The duration and extent of the treatment varies. In the cases reviewed complete relief was occasionally obtained by one dilatation. Sometimes one application of silver nitrate was sufficient. As a rule, however, both dilatation and the application of silver nitrate were employed and the treatment was continued for weeks. Recurrences were common some times developing after an interval of many months. Some few cases resisted treatment. These might have yielded to electrocoagulation.

In conclusion Ormond says that non-purulent urethritis is to be regarded as a urethrotrigonitis caused primarily by congestion and secondarily by infection.

C. TRAVERS STEPHEN, M.D.

GENITAL ORGANS

Heitz Boyer: Diverticulitis and Calculi of the Prostate (*Maladie diverticulaire de la prostate et calculs prostatiques*). *J. d'urolog. méd. et chir.* 1935 39 363.

Heitz Boyer believes that the formation of intra-prostatic calculi is favored by the presence of prostatic diverticula as the two conditions occur together too frequently for the association to be a mere coincidence. He has observed six cases in which the relationship between diverticulitis and calculi was shown clearly. Three cases he reports in detail.

In the first case symptoms of acute prostatic obstruction and infection suggesting prostatic abscess developed and were followed by pyelonephritis and signs of septicemia. Pyelography disclosed two retropubic shadows. These were attributed to vesical calculi but no calculi were found in the bladder. As the symptoms of infection persisted the author became convinced of the presence of a prostatic focus. Urethroscopy showed two diverticula opening

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Fraser, J.: *Skeletal Lipoid Granulomatosis. Brit J Surg*, 1935, 22 800

The author reviews the histories of four cases of skeletal lipoid granulomatosis

The first case was that of a girl aged one year and nine months who developed a limp in the left hip. A roentgenogram showed rarefaction of the left ilium. Biopsy of this lesion disclosed the characteristic histocytes and giant cells of lipoid granulomatosis. The appearance of the bones was at first attributed to myeloma. Later, the same bone changes appeared in the right ilium, right femur, vertebrae, and skull. Gradual improvement resulted under treatment with radium packs and deep roentgen irradiation.

The second case was that of a girl three years old who presented a defect in the left side of the skull so great that the brain and cerebrospinal fluid made a fluctuant tumor near the mastoid. Deep roentgen therapy resulted in some benefit, but the patient died later of pneumonia.

The third case was that of a boy four years old who had a hard swelling on the occipital region which was diagnosed as a sebaceous cyst and operated upon. The pathologist made a diagnosis of sarcoma. The later development of cyst-like defects containing cholesterol in the left mandible and clavicle led to the correct diagnosis.

The fourth case was that of an eight-year-old girl with similar involvement of both scapulae, the right ilium, a rib, the parietal part of the skull, and the left clavicle. This child made a good recovery under deep roentgen therapy.

Skeletal lipoid granulomatosis was first recognized in 1893 by Hand. It has been described also by Schueller and Christian. It is characterized by defects in membrane bones, exophthalmos, and polyuria. Lipoid substances are deposited in selected tissue with the resulting formation of granulations which bear a close resemblance to malignant tissue. The lipoid most commonly found in these deposits is cholesterol, and the tissue involved is the reticulo-endothelial tissue, particularly that of the membrane bones, serous surfaces, and vascular areas. According to the theory more or less supported by experimental evidence, an excess of cholesterol in the blood stream, due to an endocrine disturbance, is removed from the blood by the articular-endothelial tissues and extruded as a foreign body. The extrusion takes place most readily in the areolar tissues such as that of the orbit and perivascular spaces. Its progress in bone is marked by decalcification of the trabeculae and later of the compact bone. Disappearance of

large portions of the skull, clavicles, mandibles, and other membrane bones may result from the phagocytic action of the multinuclear giant cells which are always found around the periphery of the lesions. Although the skull vault may become practically gelatinous, the dura and scalp remain unaffected.

The clinical manifestations of the condition include polyuria due to early involvement of the hypothalamic region and the pituitary stalk, and exophthalmos due to protrusion of the granulations by way of the optic foramen into the soft tissues behind the eyeballs. The irritability of children afflicted by the disease is probably due to cerebral pressure of the intracranial lesions.

In the diagnosis the condition may be confused with tuberculosis, bone tumor, primary pituitary disease, or sarcoma. In the case of a child reported in the literature both eyeballs were removed because the condition was thought to be malignancy in the orbits. The blood picture will show excess of cholesterol, total acids, and lecithin.

The disease may be fatal. In a series of fourteen cases there were seven deaths. Death is often due to an intercurrent disease developing in an already debilitated patient.

The most dependable method of treatment is deep roentgen irradiation given to the "various areas with a dosage of 150 kv 4 ma, each area being irradiated for a period of ten minutes on every third day, a filter of 3 mm of aluminum being used." The effect of this treatment is to destroy the distended and lipid-laden histocytes. Pituitary extract may control the polyuria. The diet should be free from cholesterol and have a high vegetable content.

WILLIAM ARTHUR CLARK, M D

Widmann, B P., and Stecher, W. R.: *Rhizomonomeloreheostosis. Radiology*, 1935, 24 651

The authors first review the literature on rhizomonomeloreheostosis and the recorded cases of the condition. They call attention to the numerous terms applied to the disease. They regard the name "rhizomonomeloreheostosis" as the most suitable as it is sufficiently descriptive to include the various features which characterize the condition as a clinical entity. They state that nothing definite is known as to the cause of the disease. In their opinion the theory of Zimmer that it is an embryonic metamerism disturbance is most plausible.

There is a paucity of literature concerning the pathological changes. The chief finding is a cortical hyperostosis resulting in dense sclerotic bone, either endosteal or periosteal or both. The lesion is benign and progressive. Although the inherent tendency of the process is toward lesions involving both endosteum and periosteum, in the purely endosteal

dition to permit operation should not be subjected to transurethral resection of the prostate as the latter is capable of imposing as great a burden on the kidneys as a laparotomy. Transurethral interference is very frequently followed by marked pyuria having its origin in the cut surfaces of the prostate and the bladder and in rare cases may give rise to an ascending pyelonephritis. The latter places an enormous burden on the kidneys. Therefore in the determination of the indications for the transurethral procedure as well as of those of the surgical procedure the most important factor is the test of renal function. Kidney efficiency must be the same for both procedures. An important contra-indication to transurethral resection is marked urinary infection. When this cannot be relieved by conservative measures a bladder fistula must be made. Prostatectomy may then be performed later. Another question to be answered is whether extremely large prostatic adenomas should be operated upon through the urethra. In many cases this is technically possible while in others the technical difficulties are very great or unsurmountable (hemorrhage). Therefore the transurethral operation for prostatic hypertrophy should be limited to patients with small adenomas and satisfactory kidney function. In cases of carcinoma it is contra-indicated.

An undisputed field for the transurethral operation is presented by cases of urinary retention due to contraction of the neck of the bladder (on a chronic inflammatory cicatricial basis) and cases of

sphincter hypertonia (either idiopathic or due to some spinal process). In the cases of hypertonia of the sphincter of spinal origin transurethral treatment should be attempted only when the spinal process regresses or at least remains stationary. In a case of progressive tabes it is not reasonable to attempt even the most simple operative procedure.

The transurethral procedure is indicated in from 20 to 25 per cent of cases of urinary retention. If it is not soon to be discredited the limitations to the indications must not be disregarded.

(LOUIS) JOHN W. BRENNAN M.D.

MISCELLANEOUS

Scott W. W. Repair of Rectal Tear and Recto-Urethral Fistula. *J Urol* 1935; 33: 643.

In cases of rectal tear occurring in perineal proctofistulotomy, the author sutures the tear immediately and places an indwelling catheter in the urethra. An important feature of the postoperative treatment consists in keeping the bowels closed for from ten to twelve days to allow proper healing.

In cases of recto-urethral fistula he separates the urethra and rectum by dissection, excises the fistula, closes the rectum by suture and closes the urethra over an indwelling catheter. After the operation the bowels are kept closed for from ten to twelve days as after the repair of a rectal tear.

In all of the cases in which these methods were used the results were successful.

HENRY L. SANFORD M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Fraser, J.: *Skeletal Lipoid Granulomatosis* *Brit J. Surg.*, 1935, 22 800

The author reviews the histories of four cases of skeletal lipoid granulomatosis

The first case was that of a girl aged one year and nine months who developed a limp in the left hip. A roentgenogram showed rarefaction of the left ilium. Biopsy of this lesion disclosed the characteristic histocytes and giant cells of lipoid granulomatosis. The appearance of the bones was at first attributed to myeloma. Later, the same bone changes appeared in the right ilium, right femur, vertebrae, and skull. Gradual improvement resulted under treatment with radium packs and deep roentgen irradiation.

The second case was that of a girl three years old who presented a defect in the left side of the skull so great that the brain and cerebrospinal fluid made a fluctuant tumor near the mastoid. Deep roentgen therapy resulted in some benefit, but the patient died later of pneumonia.

The third case was that of a boy four years old who had a hard swelling on the occipital region which was diagnosed as a sebaceous cyst and operated upon. The pathologist made a diagnosis of sarcoma. The later development of cyst-like defects containing cholesterol in the left mandible and clavicle led to the correct diagnosis.

The fourth case was that of an eight-year-old girl with similar involvement of both scapulae, the right ilium, a rib, the parietal part of the skull, and the left clavicle. This child made a good recovery under deep roentgen therapy.

Skeletal lipoid granulomatosis was first recognized in 1893 by Hand. It has been described also by Schueller and Christian. It is characterized by defects in membrane bones, exophthalmos, and polyuria. Lipoid substances are deposited in selected tissue with the resulting formation of granulations which bear a close resemblance to malignant tissue. The lipoid most commonly found in these deposits is cholesterol, and the tissue involved is the reticulo-endothelial tissue, particularly that of the membrane bones, serous surfaces, and vascular areas. According to the theory more or less supported by experimental evidence, an excess of cholesterol in the blood stream, due to an endocrine disturbance, is removed from the blood by the articulo-endothelial tissues and extruded as a foreign body. The extrusion takes place most readily in the areolar tissues such as that of the orbit and perivascular spaces. Its progress in bone is marked by decalcification of the trabeculae and later of the compact bone. Disappearance of

large portions of the skull, clavicles, mandibles, and other membrane bones may result from the phagocytic action of the multinuclear giant cells which are always found around the periphery of the lesions. Although the skull vault may become practically gelatinous, the dura and scalp remain unaffected.

The clinical manifestations of the condition include polyuria due to early involvement of the hypothalamic region and the pituitary stalk, and exophthalmos due to protrusion of the granulations by way of the optic foramen into the soft tissues behind the eyeballs. The irritability of children afflicted by the disease is probably due to cerebral pressure of the intracranial lesions.

In the diagnosis the condition may be confused with tuberculosis, bone tumor, primary pituitary disease, or sarcoma. In the case of a child reported in the literature both eyeballs were removed because the condition was thought to be malignancy in the orbits. The blood picture will show excess of cholesterol, total acids, and lecithin.

The disease may be fatal. In a series of fourteen cases there were seven deaths. Death is often due to an intercurrent disease developing in an already debilitated patient.

The most dependable method of treatment is deep roentgen irradiation given to the "various areas with a dosage of 150 kv 4 ma., each area being irradiated for a period of ten minutes on every third day, a filter of 3 mm of aluminum being used." The effect of this treatment is to destroy the distended and lipid-laden histocytes. Pituitary extract may control the polyuria. The diet should be free from cholesterol and have a high vegetable content.

WILLIAM ARTHUR CLARK, M.D.

Widmann, B. P., and Stecher, W. R.: *Rhizomonmelorheostosis* *Radiology*, 1935, 24 651

The authors first review the literature on rhizomonmelorheostosis and the recorded cases of the condition. They call attention to the numerous terms applied to the disease. They regard the name "rhizomonmelorheostosis" as the most suitable as it is sufficiently descriptive to include the various features which characterize the condition as a clinical entity. They state that nothing definite is known as to the cause of the disease. In their opinion the theory of Zimmer that it is an embryonic metameric disturbance is most plausible.

There is a paucity of literature concerning the pathological changes. The chief finding is a cortical hyperostosis resulting in dense sclerotic bone, either endosteal or periosteal or both. The lesion is benign and progressive. Although the inherent tendency of the process is toward lesions involving both endosteum and periosteum, in the purely endosteal

type no distinctly defined expansive enlargement of the involved bones is noted, on the contrary, relative and absolute osseous atrophy particularly in length which suggests restraint of osseous growth, has been a rather constant finding. Most of the cases on record showed some degree of medullary encroachment by the eburnating cortical hyperostosis attesting to the common association of both types of hyperostosis.

Kraft's classification of the types of lesions into those of (1) complete continuous flow, (2) partial continuous flow, (3) interrupted flow and (4) circumscribed flow is excellent as regards anatomical involvement but there is nothing to substantiate the inference that the duration and degree of pathological involvement are related to these types.

The histopathological findings do not present specific features, but fibrotic replacement of the fat marrow in the medullary canal is rather constant. With regard to the significance of concomitant vascular proliferation opinions differ.

Occasionally symptoms are entirely absent, but as a rule the condition causes first, rheumatic low grade osteoepic pain limited to one extremity and some degree of loss of strength in the affected extremity and later limitation of articular movements pseudo-ankylosis and bowing of the involved bones particularly if weight bearing is continued. The peculiar deviation of the involved digits is so frequently observed that this finding alone should lead to roentgen examination. Absolute soft tissue and osseous atrophy are found almost constantly.

To date the diagnosis has been made only by roentgenographic examination. The differential diagnosis from other osseous lesions is rarely difficult. Laboratory studies add no positive information.

No therapy has been of avail. Roentgenotherapy has been tried but as yet no definite estimate of its value is possible.

The authors report in detail a case observed by them that of a boy six years old in whom the condition was discovered accidentally during an examination for fracture. The history, clinical findings and roentgen findings suggested that the condition was in an early stage. The authors are subjecting a limited portion of the limb to a course of therapeutic irradiation hoping thereby to obtain information relative not only to the curative action of this treatment but also to the etiology of the process particularly as regards osteal telangiectasis.

LOUIS HART, M.D.

Stilansky H. The Hereditary Nature of Osteopsathyrosis (*Verererbte der Osteopsathyrosis*). *Zentralbl. f. Chir.* 135, p. 634.

Two forms of osteopsathyrosis are distinguished—osteogenesis imperfecta congenita and osteopsathyrosis idiopathica (tarda). Children presenting the first form are usually born with fractures sustained during intra uterine life. In the second form which develops during childhood fractures occur without direct trauma. In some cases the fragility of the

bones appears very late together with the symptoms characteristic of osteopsathyrosis or the symptoms of osteopsathyrosis occur without fragility of the bones. Because of the frequent occurrence of fractures and the tendency of the bones to bend the subjects of the condition appear small and squat. The head is square and because of the deficient ossification the vault of the skull is thin. According to Bauer there is inferiority of all the cellular elements of the mesenchymal supporting tissue constituting the basic substance. The instability of the fibroblasts to form fibrillae normally is evidenced by the fact that the connective tissue is richer in cells throughout and the fibers are curly. The chondroblasts produce cartilage cells of a spindle shape without proper cartilage capsules.

This constitutional bone fragility is often associated with blueness of the sclerae due to defective development of the scleral supporting structure. The supporting fibers of the sclerae are reduced in number so that the choroidal pigment shines through. There is often also a progressive otosclerosis with labyrinthine deafness due to changes in the petrous portion of the temporal bone. There is, therefore a relationship between these three pathological hereditary anlagen—defective bone growth defective formation of the scleral connective tissue and changes in the petrous portion of the temporal bone. Often some other degenerative phenomenon such as sclerotic atrophy of the thymus precocious puberty narium idiocy cleft palate harelip sarcoma of the pituitary, obesity or diabetes is present. In the family trees of families with the osteopsathyrosis taint will be found individual members in whom osteosclerosis and blueness of the sclerae are present without fragility of the bones. The clinical picture varies. In addition to very severe completely crippling forms there are cases in which the anomaly is slight and becomes manifest only when the influence of trauma is added. The abnormal brittleness of the bones is due to insufficient periosteal ossification with normal or possibly increased resorption of the sparsely produced bone substance. The newly formed bone lacks the capacity to take up tissue calcium. Therefore as a consequence of excessive osteoclastic activity, the compact bone substance is replaced by areolar tissue. Fracture healing is delayed. The delay is due less to deficient callus formation than to delay in the union of the callus with the diaphysis. The abnormality is transmitted chiefly through females. It often skips one or more generations.

The author reports a case of the condition. The patient was a three year old child who had broken three bones while playing. An uncle had had his leg fractured by an insignificant trauma. The great grandfather had blue sclerae and several fractures but was not deaf. The grandfather had blue sclerae and fractures of the clavicle pelvis and foot but was not deaf. Nothing is known regarding the brothers and sisters of the grandfather. Most of them died in early childhood. The child's father

Steindler, A.: Tuberculosis of the Wrist. *Ann. Surg.* 1914, 58: 225.

The author discusses twenty-four cases of tuberculosis of the wrist treated in the Department of Orthopedic Surgery of the University of Iowa. In nine cases the diagnosis was verified by clinical examination, the tuberculin test, and roentgen examination, and in fifteen cases by histopathological examination or inoculation of guinea pigs or both. All except one of the patients were adults. Nineteen were males. The lungs were normal in fourteen cases and showed lesion in ten. The tuberculosis was predominantly of the infiltrative and fungous type rather than of the dry and fibrous type. The article is illustrated with photographs and roentgenograms showing the results of the treatment.

The most common sign of tuberculosis of the wrist is swelling of the joint which extends to the forearm and metacarpals. The infiltration is rapidly

Ochlecker, F.: Ankylosing Inflammation of the Spinal Articulations. Spondylarthritidis ankylopoietica. *Zur Beschreibung der Gelenkveränderungen bei Spondylitis und Spondylitis deformans.* *Arch. Clin. Berlin*, 1907.

The author describes the characteristic features of spondylarthritidis ankylopoietica (Straampell-Morre-Bechterew disease) and discusses the differential diagnosis of the condition from spondylitis (spondylitis deformans) on the basis of a series of photographs and roentgenograms. In this very slowly progressing disease there is always at first inflammation with atrophy of the cartilages and ankylosis of the small vertebral articulations. The first stage can be easily overlooked in the roentgenogram unless it is borne in mind and oblique exposures are made. Not infrequently, the roentgen diagnosis of spondylitis (spondylitis) deformans is made at first because, even in the prime of adult life, when spondylitis ankylopoietica is most frequent, many

vertebral columns show marginal exostoses and thickenings on the vertebrae at certain sites. The importance of changes which are demonstrated easily on roentgen examination is often overestimated whereas changes which are demonstrated with difficulty are often underestimated. It is not until the second stage of spondylarthritis ankylopoietica that ossifications of the ligaments of the articulations such as the anterior longitudinal ligament and bridgings of the intervertebral disks appear. These changes can be easily seen in the roentgenogram. Partial or complete ankylosis of the spine occurs much earlier as the result of obliteration of the vertebral articulations. Of great importance for early diagnosis is careful roentgen examination of the sacro-iliac articulation which in many cases disappears very early, a fact apparently known to comparatively few. With regard to the cause of the condition nothing certain is known. As Oehlecker found no increase in the calcium content of the blood in his cases, he disapproves of parathyroidectomy the operative treatment recommended by the Russians.

Since, in addition to the ankylosis of the vertebral articulations and the sacro-iliac articulation there is very frequently also ankylosis of the hips as in the case reported by Struempell it may be possible in some cases to relieve the patient somewhat by mobilizing one of the ankylosed hip joints by arthroplasty as was done by Oehlecker in two cases five years ago.

In conclusion the author urges greater agreement in naming diseases of the spine and energetic opposition to misleading new terms. He states that chronic ankylosis of the vertebral articulations should be called 'spondylarthritis ankylopoietica' as suggested by Fraenkel and not 'spondylitis ankylopoietica'. The use of the term 'spondylitis deformans' instead of 'pondylitis deformans' for the disease resulting from wear and tear is justified. This term like 'arthrosis deformans' has been widely accepted and is used in the excellent book of Schmorl and Junghans. All other terms should be rejected in the interests of quicker and better understanding.

(OEHLECKER) HARRY A. SALZMAN M.D.

Albo M. und Maisonnave A. Joint Chondromatosis Co-Existing with Two Bone Malformations. An Osteogenetic Exostosis and an Osseous Fissure between the Fifth Lumbar and First Sacral Vertebrae. Chondromatosis articular coexisten con dos malformaciones óseas: exostosis osteogénica y fisura ósea vertebral y lumbar y I sacral. *Rev. de chir. y traumatol.* 1935 4 65.

The case reported was that of a man thirty two years of age who injured his left knee in gymnastic exercises and two years later injured the same knee again. The injuries were followed by swelling and pain. After the second injury, roentgen examination showed joint chondromatosis, foreign bodies in the left knee, an exostosis of the right tibia which the patient said he had had since childhood and a

fissure between the posterior arch of the fifth lumbar vertebra and that of the first sacral vertebra. When removed by operation the foreign bodies were found to be cartilaginous. The exostosis and the vertebral fissure were evidently congenital. The fissure had apparently caused the arthropathy through some direct or indirect action on the cord and through nerve changes. Trauma has been merely an exciting cause.

Theories regarding the pathogenesis of joint chondromatosis are discussed in detail.

ALDORE GOS MORFAY M.D.

Overgaard K. Otto's Disease and Other Forms of Protrusio Acetabuli. *Acta radiol.* 1935 16 390.

In the literature the term protrusio acetabuli is applied to conditions which are very different in nature. These conditions may be divided into the following three groups:

1. Secondary protrusions. These occur as complications of clearly defined focal disease in the hip joint or trauma.

2. Otto's disease or osteoarthritic protrusion. This condition is regarded as a special type of developing osteo-arthritis of the hip joint. As a rule it is bilateral. A certain form of development of the hip socket (deep hip socket) is thought to favor or to be the chief cause of its development.

3. Juvenile osteo-aesthetic protrusion. This condition develops at the age of puberty in girls in the absence of signs of arthritic or traumatic changes in the hip joint, probably as the result of weakness of the bone tissue.

To seventy four previously reported cases of protrusio acetabuli the author adds thirteen new cases.

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Gordon Faylor C. and Wiles P. Interinnomino-Abdominal Hind Quarter Amputation. *Brit. J. Surg.* 1935 22 673.

Billsroth in 1801 was the first to attempt interinnomino-abdominal amputation but it remained for Girard four years later to achieve it with survival of the patient. In seventy nine cases reported in the literature up to the present time the mortality was about 50.5 per cent. However the results have been better in recent years as in 20 cases in which the operation was done since 1910 the mortality was 40 per cent.

The amputation involves the entire gluteal mass, the os innominatum and the entire lower extremity. It is performed under general anesthesia supplemented by spinal block. The incision is made along the crest of the ilium from the posterosuperior angle to the anterosuperior angle thence downward and inward 15.5 inches below Poupert's ligament towards the middle of the origin of the adductor brevis. Poupert's ligament is divided at each end and the spermatic cord retracted downward. The rectus

abdominis muscle is then cut from its insertion on the pubic crest, the pubis denuded on both sides, and the symphysis divided. Next, a skin incision is made from the center of the iliac crest to the gluteal fold and along this fold to meet the lower mesial end of the first incision. The ilium is saved through into the sciatic notch. The innominate bone and lower extremity can then be drawn away from the pelvic peritoneum. The psoas muscle is sectioned above the pelvic brim, and all other muscles attached to the disengaged os innominatum are divided near the bone. After hemostasis and injection of nerve trunks, the remains of the muscles are sutured to re-inforce the peritoneum and the skin flaps are sutured. Blood transfusions should always be given.

The authors have performed this operation in five cases with death in two. They believe it probable that in the future such an extensive surgical procedure will be undertaken less and less frequently because of the more conservative irradiation therapy now possible.

Their cases may be summarized briefly as follows.

Case 1. Sarcoma of the femur and innominate bone. The patient was a man twenty-five years of age. Roentgen examination revealed a large periosteal sarcoma of the neck, trochanter, and 7 in. of the shaft of the femur which involved also the acetabulum and the ilium. At the lower part of the growth there was a pathological fracture. The general condition of the patient was poor. Arrangements for blood transfusion miscarried, and the patient died six hours after the operation.

Case 2. Osteoclastoma of the innominate bone. A boy seventeen years of age developed a large hard swelling in the perineum and upper part of the thigh following an injury sustained in a football game. Roentgen examination disclosed almost complete disappearance of the left ischiopubic junction and a tumor mass surrounding this region in which irregular bone formation was seen. During and just after the operation the patient was given 1,200 c cm of blood by transfusion. He recovered and was discharged on the forty-ninth day after the operation. He now wears, day and night, an abdominal webbing support going over the right shoulder.

Case 3. An enormous chondroma of the ilium extending from the hip to the costal margin. The patient was a man fifty-nine years of age who had had a small tumor in the groin since infancy. In the past two years the tumor had increased to a tremendous size. The patient was completely disabled and suffered severe pain. The operation was done with great difficulty because the tumor mass obscured all landmarks. There was an almost fatal fall in the blood pressure. Twelve hundred cubic centimeters of blood were given by transfusion during the operation and 500 c cm later. Although the wound healed poorly and thrombophlebitis of the popliteal vein of the other leg developed, the patient eventually recovered.

Case 4. Sarcoma of the pelvis of a man twenty-eight years old. The growth had traversed the

midline. At operation it was necessary to cut the bone on the opposite side of the pubis. Death occurred about two hours after the operation.

Case 5. Sarcoma of the upper end of the femur. The patient was a boy eighteen years old who had a swelling on the upper part of the thigh which he claimed had been present for only three weeks. Roentgen examination showed rarefaction of the cortex, a periosteal reaction, and fine spicules at right angles to the shaft of the femur at the junction of the upper and middle thirds. The innominate amputation was done because disarticulation was considered inadequate. The patient suffered very little shock and made an uneventful recovery.

WILLIAM ARTHUR CLARK, M.D.

FRACTURES AND DISLOCATIONS

Hess, J. H., Bronstein, I. P., and Abelson, S. M.: Atlanto-Axial Dislocations Unassociated with Trauma and Secondary to Inflammatory Foci in the Neck. *Am J. Dis Child*, 1935, 49, 1137.

The authors present a summary of the literature on non-traumatic atlanto-axial dislocations. To the twenty-two cases reported by others they add two of their own. As they believe that the anatomical relations, roentgen diagnosis, and treatment of such dislocations have been adequately dealt with, they confine their discussion to the pathogenesis. They believe that atlanto-axial deviation is dependent upon primary weakening of the lateral ligaments with additional factors such as muscle spasm, excessive rotation, or fixed rotation. They have found no record of injury to the spinal cord. For the prevention of such dislocations they suggest the avoidance of over-rotation of the head in the exposure of operative fields and in the cases of children wearing massive dressings for suppurating cervical foci.

BARBARA B. STIMSON, M.D.

Magendie, J.: Chronic Arthritis of the Ossifying Type Following Fracture of the Spine (Arthrite chronique post-fracturaire du rachis à forme hyperostotante). *J. de méd. de Bordeaux*, 1935, 112, 347.

The author reports the case of a man forty-two years of age who was thrown from a car, landing on his back. He was able to walk, but complained of pain in the back. He was observed for forty-eight hours in a hospital and then taken home, where he remained in bed for a month and a half. He had retention of urine during the first few days and persistent constipation. Roentgenograms taken at the time of the accident (only the anteroposterior view) were said to be negative.

After the patient was up and around he gradually improved and became able to go back to work with only a few complaints. About ten months after the accident he had an increase in symptoms and lateral roentgenograms disclosed an old fracture of the tenth and eleventh thoracic vertebrae with calcification of the intervertebral disk and herniation of the

nucleus pulposus. He refused treatment but five months later he returned because of persistent pain. The application of a plaster cast in hyperextension which was worn for three months resulted in marked relief of the symptoms. Eighteen months after the injury he had a sudden onset of hyperesthesia of the left leg along the course of the third lumbar nerve. Roentgenograms disclosed a partial synostosis between the injured vertebrae. The condition was an ossifying arthritis following an unrecognized fracture of the spine.

The author next discusses the Kuemmel Verneuil syndrome. He feels that the term Kuemmel Verneuil syndrome 'may be used as a general term for post traumatic lesions of the spine frequently due to unrecognized or inadequately treated fractures and the tendency of the spine to develop secondary deformities. Kuemmel's disease on the other hand is a rare lesion, a rarefying osteitis. Prevention of the syndrome requires early diagnosis and adequate treatment as described by Boehler. The treatment indicated is immobilization, frequently by fusion.

BARBARA B. STINSON, M.D.

Windboe E. F. Nailing of Collum Femoris Fractures. *Ac a chirurg Stand* 1935 76 315

The author believes that in the treatment of fractures of the neck of the femur the process of *nailing* as done by the method of Sven Johansson makes it possible to obtain reposition and fixation of the fracture ends with preservation of active motion and a short period of disability even in the most aged patients with far better prospects of good and lasting results.

Under anesthesia preferably spinal anesthesia induced with perian both legs are somewhat extended until they are equal in length both are slightly abducted and the injured leg is rotated inwardly from 25 to 30 degrees. Roentgenograms are then taken to determine that correct reduction has been obtained. A small hollow is made in the cortex about 2 cm. below the inferior projecting edge of the trochanter through an incision from to to 15 cm. long extended downward from the trochanter medially, along the lateral side of the leg. A thin stiff, metal wire is drilled axially into the neck to a

distance of from 8.5 to 10 cm. Roentgenograms are then taken. If the position is not correct, a second wire is inserted and the first wire removed. A modified Smith Petersen pin is threaded onto the wire and driven in until it takes a firm hold on the head. Roentgenograms are made again. Traction is then relaxed and the fracture impacted by blows. The same or the following day, active motion is begun and subsequently motion in all directions is instituted. The patient is able to sit up after a few weeks and is allowed to walk in a go-cart from six to eight weeks after the operation.

The author has performed fifteen operations by this method. Osseous healing resulted in thirteen cases. One patient died twelve days after the operation and one was still under treatment at the time of this report. Eleven of the thirteen patients have normal or almost normal function and two have good function.

BARBARA B. STINSON, M.D.

Outland T. A. Fracture of the Body of the Calcaneum. *Pennsylvania M J*, 1935 38 431

The author stresses the serious nature of fractures of the body of the calcaneum and the importance of early and accurate diagnosis of such fractures. He discusses the different types of calcaneal fractures, the mode of their production and their diagnosis.

For cases with displacement he advises the Boehler method of treatment. Pins are placed through the tibia and through the posterior part of the calcaneum and by means of a screw extension apparatus the tuberosity of the bone is pulled downward and then backward. The broadening of the bone is corrected by lateral pressure exerted by a screw vise. The reduction is checked by roentgenograms and an unpadded plaster cast incorporating the pins is applied. After from three to five weeks the cast and pins are removed and a walking cast is applied. On removal of the walking cast at the end of from nine to fourteen weeks a rigid arch support is applied.

For fracture without displacement the author advocates early heat treatment, massage and active motion without weight bearing for about eight weeks. For late cases with traumatic arthritis of the subastragaloid joint he recommends subastragaloid arthrotomy.

BARBARA B. STINSON, M.D.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Algave, P.: *The Treatment of Varices (Le traitement des varices)*; *Presse méd.*, Par., 1935, 43 937

The author discusses the relative merits of the 2 chief methods of treating varices—the injection of solutions to produce sclerosis of the veins and radical operation. He quotes a discussion before the National Surgical Society in which, although differences of opinion were expressed, even the advocates of injection admitted the more or less serious risks of the method. The multiplicity of the substances used for the injections, which include sodium carbonate, sodium salicylate, sodium citrate, sodium morrhuate, biniodid or bichloride of mercury, quinine, and hypertonic saline solution, seems to indicate that none of them has been found entirely satisfactory.

In the one case which the author treated by the injection method he used sodium salicylate according to Sicard's directions. As 3 injections into the most seriously affected part of the leg were without result, he gave up the treatment.

In a review of the literature on the treatment of varices by injection, Algave found 3 groups of cases: (1) those in which the injections apparently gave a good result but the beneficial effect was temporary, (2) those in which the injections had no effect, (3) and those in which the results were negative or temporary and there were unfavorable by-effects. Illustrative cases of these 3 groups are cited. Algave has never known a case in which the good result lasted more than two or three years. The unfavorable by-effects may be slight or serious. The injections may cause quite intense pain, spasm of muscles of the leg to which the injections may penetrate through the communicating veins, or impotence of the leg for hours or days. More serious results are phlebitis, persistent atonic wounds, impotence with amyotrophy of the muscles of the calf, heart disturbances from repeated injections, and serious or fatal embolism.

By his method of operation Algave has obtained good results which have lasted for ten, fifteen, and twenty years. He advocates a very complete 2-stage operation, the steps of which he shows by illustrations. In one stage the operation is done on the veins of the thigh and in the other on those of the leg.

As the communicating veins often enlarge in varices, thereby connecting the deep and superficial veins, and as the persistent veins are frequently the cause of recurrence, the operation includes not only as complete removal of the lesions as possible but also ligation of the communicating vessels. The operation is free from danger if it is performed cor-

rectly after proper preparation of the skin particularly in areas that are diseased or ulcerated. Algave has performed it for over thirty years and in more than 1,000 cases of varices, some of them simple but others severe and complicated by hemorrhage, phlebitis, or ulcers. On the basis of this experience he is thoroughly convinced of the superiority of complete resection to any method of injection.

AUDREY GOSS MORGAN, M.D.

Greco, T. *Post-Traumatic Thrombosis of the Carotid Artery (Le trombosi post-traumatiche della carotide)*. *Arch. ital. di chir.*, 1935, 39 757

Greco summarizes and critically reviews twenty-five cases of post-traumatic thrombosis of the carotid artery which he collected from the literature, reports a case of his own, and discusses the etiology, pathology, symptomatology, diagnosis, and treatment.

He states that although the condition is not so uncommon as is suggested by the literature, it is unusual in civil life. The first comprehensive discussion of it was published by Hunt in 1914. The majority of the reported cases were due to war wounds. Greco has been unable to find any review of the condition since that of Stierlin and Meyenburg in 1920. He is interested especially in the contusive type which in peace times is more frequent than the type due to penetrating wounds and more liable to be overlooked than the latter.

Greco's patient, a man twenty-three years of age, was thrown from a bicycle, striking the left side of the mandible but apparently sustaining only superficial lacerations of the face. A few minutes after the accident he developed general malaise and some amblyopia. These disappeared in a few hours, but after a free interval of sixteen hours they recurred in association with vomiting, headache, aphasia, and a right hemiplegia. The patient rapidly became unconscious. Craniotomy showed no meningeal hematoma. Death occurred sixty hours after the accident. Autopsy revealed no lesion of the subcutaneous tissues or muscles of the neck, but disclosed an occluding thrombus of the internal carotid arising from a transverse lineal laceration of the intima and media. Above the thrombus the lumen was patent as far as the carotid foramen, beyond which there was a thrombus filling the middle cerebral artery.

These findings are similar to those in the majority of cases coming to autopsy. In contusion, the lesions of the intima may be limited to slight lacerations. As a rule the emboli are multiple and show retrograde growth.

In the development of the symptoms the following three stages can be distinguished:

1 Immediately after the trauma. Although at this time the symptoms are rather vague, there is certainly a momentary suspension of circulation in the affected area. To this may be attributed the dizziness, amblyopia, and malaise which, although transient are disproportionate to the obvious lesions.

2 The establishment and organization of the thrombus. In this period there may be no symptoms at all or the primary disturbances may return. The sign of crucial importance is diminution or absence of the carotid and temporal pulse on the affected side.

3 The almost inevitable occurrence of embolism. This may produce no symptoms if the patient is already unconscious and hemiplegic from insufficiency of the collateral circulation or may be the outstanding feature. In cases of not definitely localized trauma of the head and neck it is difficult to trace cerebral symptoms to their true origin when they develop unexpectedly after a free period and no striking sign calls attention to the carotid. This is the chief reason why the contusive type has been so little studied.

A definite diagnosis in the first period is impossible although the malaise is suggestive. In the second stage a unilateral diminution of the carotid or temporal pulse is almost pathognomonic. In the third stage consideration of the disproportion between the obvious trauma and the cerebral symptoms will prevent the error of attributing the lesions to an intracranial source. The free interval depends upon the perviousness of the lumen. From its duration the quality and roughly the number of emboli may be deduced. Apparently the prognosis is less grave when the interval is short.

Cases due to penetrating wounds tend to run a course somewhat different from that of cases due to contusion. In some of the reviewed cases of the first type the patients developed pareses of various muscle groups and aphasia very soon after the wound but retained consciousness. These patients all lived and their symptoms regressed. Others were stuporous and hemiplegic from the beginning and died quickly. The contusive type of the condition is characterized particularly by a free interval.

In the first period in addition to complete quiet the cautious use of cardiac tonics is perhaps advisable to raise the blood pressure. In the rare cases in which a definite diagnosis is made early immediate ligation of the carotid may be considered but it is debatable whether in the absence of cerebral symptoms the risk is justifiable. However when embolic phenomena have once occurred ligation of the carotid is compared by ligation of the jugular vein is indicated. Although this procedure will sometimes be unsuccessful the risk is less than that of further emboli. In fact exploration of the carotid may be indicated in doubtful cases.

The article contains illustrations and is followed by a bibliography. M. F. MOORE, MD.

LYMPH GLANDS AND LYMPHATIC VESSELS

Mitchell, L. A. Malignant Monoblastoma. A Variant of Monocytic Leukemia. *Ann Int Med* 1935 8 135

The recognition of monocytic leukemia as a distinct disease is due to recognition of the monocyte as an independent cell entity. The theory of cell relationship which advanced this view is now generally accepted by hematologists. The author reviews the theories regarding the method of formation of the monocyte and discusses the three theories which have received the widest recognition.

The unitarians (Maximow) believe that the monocyte is common with the other blood cells, takes its origin from the lymphocyte. They see in the lymphocyte an element which is relatively undifferentiated as to structure and function and exists solely to produce other blood cells. The dualists (Naegeli) recognize two independent series of leucocytes. They believe that the monocyte is of myeloid origin, developing from the myeloblast while the lymphocyte is an independent cell type. The theory advanced by Cunningham (Sabers and Doan) is most generally accepted today. These observers recognize three types of leucocytes each with its own characteristic hematopoietic tissue which arises from a common mesenchymal rest and stem cell. They believe that the monocyte arises in the connective tissue from so-called histiocytes of the reticulo-endothelial system. The monocyte which arises from the histiocyte of the diffuse connective tissues is a still smaller cell than the clasmatoocyte. The monocyte is phagocytic, but takes up finer particulate matter than the clasmatoocyte and has an affinity for lipoids.

The author presents a detailed report of the clinical history, blood findings and gross anatomical findings at postmortem examination in a case of malignant monoblastoma. This variant of monocytic leukemia is described for the first time. It comes under the classification of leukosarcoma and presents an aleukemic and a leukemic phase with a terminal blood picture of monocytic leukemia. In the case reported there was an unusually wide spread definitely malignant hyperplasia of reticulo-endothelial cells. A peculiar feature of the pathological change was multiple recurring monoblastomas which were formed by localized hyperplasia of the histiocytes of the diffuse connective tissues. In the aleukemic phase these nodules constituted the early involvement of the reticulo-endothelial system while in the leukemic phase they were accompanied by hyperplasia of the reticulo-endothelial cells of the stroma of the organs. Since their occurrence antedated by at least five months both the leukemic blood picture and the clinical evidence of reticulo-endothelial hyperplasia in the liver and spleen, the nodules could not be explained either as localized deposits of circulating monoblasts or as metastases. The author notes a close parallel between the course of the condition in this case and

the course of malignant lymphoblastoma with terminal lymphatic leukemia, a disease of the lymphatic system. He states that both conditions present a characteristic type of malignant blastoma, the spread of which is usually limited to the tissues in which it originates, and at least the possibility of a terminal leukemia which reflects the character of the cells forming the blastoma.

He concludes that the literature and the case he reports tend to substantiate the view that the monocyte has a separate origin from other leukocytes and that monocytic leukemia is a distinct disease.

HERBERT F. THURSTON, M.D.

Ehrlich, J. C., and Gerber, I. E.: The Histogenesis of Lymphosarcomatosis. *Am J Cancer*, 1935, 24, 1.

The authors first review the history of our knowledge regarding the development of lymphomas. They call attention to the confusion which exists concerning the nature of lymphosarcoma and its relation to sarcoma on the one hand and to lymphoid diseases on the other. They then discuss the histogenesis of lymphosarcoma with special emphasis on the rôle of the reticulum and lymphocytes.

Biopsy and histological studies of autopsy material in eighteen cases of lymphosarcomatosis revealed varied histological pictures which could be classified into three main groups on the basis of the morphological characteristics of the predominating cell type. There were found (1) cases in which large, pale cells in reticular arrangement predominated, (2) cases showing a mixture of cells, some of which were reticular like those in the first group, and some of which were free (morphologically the free cells resembled immature, large lymphocytic cells), and (3) cases in which the lymphosarcomatous tissues were composed predominantly of free cells of either the immature or the mature lymphocytic type. These three types, for descriptive purposes, were termed "reticular," "intermediate," and "lymphocytic," respectively.

These types were found to correspond in their essential morphological features to the immature, intermediate, and mature cells resulting from normal

differentiation of the reticulum cell along lymphopoietic lines. This similarity, together with evidences of the progressive transformation of the less mature into more mature cell types in lymphosarcomatosis, indicated that the histogenesis of the disease consists of progressive lymphopoietic differentiation of the cytoplasmic reticulum.

Lymphopoiesis as it occurs in lymphosarcomatosis manifests blastomatous characteristics. These are indicated by the unrestricted growth of the tumor masses and the atypism of the cells.

Lymphosarcomatosis arises in a region of lymph nodes, from which it extends to other regions of lymphatic tissue and other organs in progressive fashion. The spread occurs by direct local extension and by metastasis via the lymphatics and the blood stream. In addition, there occurs an autochthonous formation of lymphosarcomatous foci in many centers of lymphatic tissue. This autochthonous origin is evident in partially involved nodes, where intermediate stages in the formation of these foci from local reticulum cells may be observed. In two of the authors' cases it was demonstrated by diffuse involvement of the malpighian follicles of the spleen.

As a result of these modes of spread, many cases of lymphosarcomatosis show, in their late stages, a widespread involvement of the lymphatic tissues (with the exception of the spleen) and of other organs.

Lymphosarcomatosis differs from the true sarcomas in its simultaneous origin in various lymph nodes in one region, its autochthonous mode of spread, and its tendency to be restricted to one type of tissue. It bears certain resemblances to lymphadenosis, such as identical histogenesis, restriction to lymphatic tissue, and systematization. Nevertheless, its focal origin, the more aggressive character of its growth, its focal involvement of lymph nodes, and its limited systematization classify it as a blastomatous disease of lymphatic tissue whereas lymphadenosis is of a hyperplastic character. From the oncological point of view, lymphosarcomatosis may be classified as a blastomatous disease in the group of hemoblastoses.

HOWARD L. ALT, M.D.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE, POSTOPERATIVE TREATMENT

Friedrich H. The Operative Risk in Cases of Hemophilia (Ueber das Operationsrisiko bei Hämophilien) *Chirurg* 1935 7 73

Knowing that his patient is a bleeder it is sometimes difficult for the surgeon to decide whether the risk of hemorrhage from an indicated operation is greater or less than that of withholding operative treatment. This decision involves grave responsibility. There are no general rules. Statistics on the risk of fatal hemorrhage in hemophiliacs have not yet been reported in the literature. Such statistics should be based only on the cases of known bleeders and should not include cases in which the anatomical conditions are particularly favorable for the control of hemorrhage.

The author reports three cases and attempts to establish rules of a general and particular nature with regard to the indications for operation in hemophilia. He estimates the risk of fatal hemorrhage to be about 35 per cent and therefore concludes that in the presence of hemophilia operation should be performed only for conditions which certainly or in all probability will cause death in a limited period of time if they are not treated surgically. He states that in appendicitis operation should be attempted only when peritonitis has already developed or is threatening and in ileus and gastric ulcer it should be considered only after all other methods of treatment have proved unsuccessful. In cases of gastric carcinoma and malignant tumors in general operation is inadvisable. Joints and other skeletal structures should be subjected only to incision or puncture for acute suppurations. In cases of hematoma operation should usually be avoided. The question as to the value of blood transfusion or the administration of native preparations as pre-operative treatment in cases of hemophilia cannot yet be answered. The electric knife offers no advantages. The question as to whether bleeders with greater risk of hemorrhage can be differentiated from those with less risk on the basis of examination or the previous history cannot be answered with certainty.

(HEINEMANN GRUBER) Sp. M. ZIMMERMAN M.D.

Trusler H. M. and Cogswell H. D. The Question of Homoplastic Skin Grafting. *J. Am. M. Ass.* 1935 104 2076

There is much controversy regarding the transference of skin from one individual to another in spite of the fact that practically all recent scientific observation has proved this type of graft unsuccessful. After citing a number of contradictory reports

from the literature the authors present their observations in five cases. In most of the cases the grafts adhered and appeared to take but later sloughed off. Subsequent healing was delayed by the unhealthiness of the remaining granulations. What ever infection appeared seemed to be of low grade and secondary to the necrosis.

The authors conclude that the grafts fail because of some biological incompatibility and that such grafting is useless, deleterious and unnecessary.

THOMAS W. STEVENSON M.D.

Frimann Dahl J. Postoperative Roentgen Examinations 1. Diaphragmatic Excursions and the Postoperative Venous Flow (Postoperative Röntgenuntersuchungen 1. Diaphragmbewegungen und der postoperative Venenstrom) *Acta chirurg. Scand.* 1935 76 Supp. 36

The importance of slowing of the blood flow in the development of thrombosis is generally conceded. Movements of the diaphragm are thought to play a part in regulating the rate of venous return. The author studied the range of diaphragmatic excursion before and after operation by X ray examination. In a series of twenty cases in which an abdominal operation was performed he found a significant diminution in the range of motion on the first day which was followed by gradual restoration to the normal over a period of twelve days. The restriction of motion was most pronounced following operations on the upper abdomen. The type of anesthetic used played no part. Two factors are responsible for the inhibition of diaphragmatic excursion—peritoneal pain and meteorism. The former was found to be the more important. Forced respiration and increased depth of inspiration following carbon-dioxide inhalation were correspondingly reduced following operation.

Direct determination of the rate of venous flow in the lower extremities was made by X ray examination after the injection of parabrodil. Prolonged bed rest even in the cases of patients not operated upon caused delay in the emptying of the large veins of the leg. After major operations there was a pronounced retardation of the venous flow which in some cases amounted to almost complete cessation. The change was most marked on the second postoperative day and persisted during the entire period of recumbency. It was less marked after thoracic operations and absent following thyroidectomy.

The delayed venous emptying did not coincide with the inhibition of the diaphragmatic excursions and can therefore not be attributed to the decreased mobility of the diaphragm. More important factors were meteorism which increased intra abdominal

involving the entire extremity and (5) the fulminating rapidly fatal type

Gas gangrene is to be suspected in all traumatic wounds in which a disturbance of the main and collateral circulation is associated with considerable injury to muscle and bone. It may follow also simple lacerations and burns.

The condition is manifested clinically by undue pain in a wound from one to four days after the initial trauma. The wound is brownish and angry looking. There is a serous discharge with a characteristic mousy odor. Later crepitation is noted on palpation of the tissue and there is a liquefied fatty discharge. Roentgenograms will show the gas bubbles. Bacteriological examination will identify the organism.

The authors review fifteen cases—three of Type 1, two of Type 2, three of Type 3, six of Type 4, and one of Type 5. The mortality was 20 per cent.

The initial trauma ranged in severity from extensive injury to the simplest laceration. In many cases the condition was due to cuts from glass. In one case the gangrene followed an injection of varicose veins for ulcer. In 80 per cent of the cases the lower extremity was involved. The number of days after the initial trauma before the appearance of symptoms was about four. The characteristic mousy odor was noted in twelve cases. Crepitation and the escape of gas occurred in all. Extreme pain out of proportion to the wound injury was present in eleven cases.

At operation pathological changes in muscle tissue were found in fourteen cases. The muscles had a mahogany red or boiled ham appearance depending upon the degree of involvement. In more advanced cases necrosis of the tissues was found. A progressive anemia was characteristic of the blood picture until the infection subsided. Syphilis or pregnancy existing at the time of the occurrence of the infection did not alter the clinical picture in any way.

All wounds with impaired circulation and destruction of tissue should be considered as potentially gas infected and treated by careful débridement with the removal of all foreign material, absolute hemostasis and the establishment of adequate drainage. The discharge from the wound should be carefully watched and cultured for the gas bacillus. Antiserum should be used early.

Amputation is indicated when the main circulation is definitely obstructed and viability of the limb is impossible. It is indicated also when acute symptoms of gas infection appear from twenty-four to forty-eight hours after trauma to a limb causing extensive lacerations of tissue, joint destruction or considerable comminution of bone. Conservative treatment is preferable when the incubation period is long, the blood supply is good and the progress of the infection is slow. In civil surgery the skin flap method with a high amputation is suitable. After thirty to 48 hours the flap is turned down over the denuded area. If amputation is not done multiple

incisions are made, the necrotic tissue is removed and the wound is dakenized.

Supportive measures such as the administration of fluid by intravenous injection and hypotension are indicated. Transfusions of from 100 to 250 cc. of blood are of value. Injections of the specific antiserum or polyvalent antiserum are given to prevent or control extension of the infection.

BENJAMIN G. P. SAUNDERS, M.D.

Meleney, F. L. Zinc Peroxide in the Treatment of Micro Aerophilic and Anaerobic Infection With Special Reference to a Group of Chronic Ulcerative Burrowing Non-Gangrenous Lesions of the Abdominal Wall Apparently Due to a Micro Aerophilic Hemolytic Streptococcus. *Ann Surg* 1935 101: 99.

The author presents a group of sixteen cases of chronic ulcerative burrowing non-gangrenous lesions of the abdominal wall apparently due to a micro-aerophilic hemolytic streptococcus. The lesions in the three cases responded strikingly to local treatment with zinc peroxide.

The first patient was a man who was the subject of a chronic ulcer of the right groin which had been in existence for many years. The ulcer was attended by an inflamed inguinal gland and a fistula which extended deep beneath the crease of the groin. The patient had been treated with various solutions and lotions. The use of numerous incisions, excisions, and skin grafting were attempted. The patient was given without avail tar emetic and transfusion. The patient died with a pelvic artery aneurysm after nineteen months of illness.

The second patient was a woman who developed a pelvic abscess which was treated by the right lower quadrant following colotomy and celotomy for ectopy. When this abscess was incised the drainage was poor. Gradually the margins of the abscess came undermined. An ulcer developed and spread slowly in all directions. Areas of skin became thinned out and which developed from beneath grew later with the main ulcer. Every local and general treatment was applied. The patient developed amyloid degeneration of the liver and kidneys and died of peritonitis after an attempt at excision of the whole process failed.

The third case was seen in the Roosevelt Hospital, New York City. The patient was a woman who had a painful mass in the left lower abdomen for a month. At operation an abscess was found and was drained by a counter incision in the flank. The patient continued to discharge profusely for weeks despite of all kinds of general medical and operative treatment. The skin site finally became undermined.

began to spread subcutaneously and to form an ulcer. Three weeks later the skin perforated from beneath and a secondary ulcer formed. The author advised a radical excision, but as improvement then began radical procedures were postponed and ultraviolet-ray treatment was given. The sinuses continued to drain for seventeen months longer and then closed spontaneously. The course of the condition lasted twenty-six months.

The fourth case was seen in St. Michael's Hospital, Newark, N. J. The patient was a woman who had been subjected to an interval appendectomy a year previously. The wound became infected and, instead of healing, continued to discharge. After six months the infection began to undermine the skin and caused the formation of a large ulcer which gradually enlarged by a process of undermining and liquefaction of the margin. Excision of the undermined flap failed to stop the progress of the lesion. Vaccines and filtrates were of no avail. Antimony had no effect. Maggots were tried and nearly drove the patient insane by their activity. Her morale was completely shattered. The pain in the wound could hardly be controlled with large doses of morphine. Cultures from the lesion yielded a pure culture of a hemolytic streptococcus which would only grow anaerobically. In the previous cases this organism had been present in mixed culture. It was now apparent that this was probably the causative organism. Its preference for an anaerobic environment suggested the use of a peroxide to inhibit its activity. Clarke and Miller, of the Department of Biological Chemistry, Columbia University, were asked if they could suggest a peroxide that would yield its oxygen over a relatively long period of time rather than give it off abruptly. After some deliberation they suggested zinc peroxide. A creamy suspension of the powder was made in sterile water and applied to the wound. Within three days a favorable reaction was apparent. By the end of a week the appearance of both the patient and the wound had changed. The patient's morale was restored, the fever and pain subsided, and the undermined flaps began to adhere. As soon as the flaps were sealed down, new skin began to grow in from the margins. Soon it was possible to apply skin grafts. The use of the zinc peroxide was then stopped. The wound healed over rapidly except for two small areas in the groin where the skin margin was rolled in. In one of these areas a sinus was beginning to form. This sinus persisted for several months after the patient left the hospital. She finally came over to the author's laboratory for a culture to be taken directly from the sinus. The micro-aerophilic hemolytic streptococcus was again found deep down in the sinus. Following careful application of the zinc peroxide to the depths of the sinus the sinus finally closed.

The fifth case was that of a negro woman who was admitted to a ward of the Sloane Hospital, New York City. The condition followed a hysterectomy performed after a dilatation and curettage. The abdominal wound became infected, and for two

months large quantities of pus drained from three sinuses. When an anaerobic bacteriological study was made, the micro-aerophilic hemolytic streptococcus was found in pure culture. The sinus was injected with a watery suspension of zinc peroxide and a roentgenogram made to determine its extent. The zinc outlined the cavity and tract clearly. It revealed large subcutaneous pockets on either side and a sinus extending deep into the pelvis. The sinus openings were connected by an incision and the subcutaneous pockets laid bare. Thereafter, the wound was irrigated daily with saline solution, and zinc peroxide suspended in 1 per cent gelatin was instilled. It was soon impossible to enter the sinus tract with even a small catheter, but a roentgenogram disclosed a large mass of fragmented zinc peroxide deep in the pelvis. Judged from its fragmented appearance, this was probably a portion of the peroxide originally injected in the watery suspension. The mass was obviously behind the rectum. After its evacuation from the rear the wounds healed promptly.

The sixth case was that of a woman seen at the Beth Israel Hospital, New York City. One year previously the patient had been subjected to hysterectomy. The wound became infected and the drainage site gradually became a chronically draining sinus. Various antiseptics were used without avail. Gradually the sinus began to undermine and spread. Several attempts were made to halt the infection by conservative excisions, but it became continuously worse. Secondary closure was finally attempted, but broke down. The patient was then transferred to a ward of the Presbyterian Hospital. The undermining then extended down into the vulva and out in the flanks. Bacteriological examination again revealed the micro-aerophilic hemolytic streptococcus. The wound was thereupon treated at once with a suspension of zinc peroxide in a 5 per cent sodium pyrophosphate solution which suspends the heavy powder even better than gelatin and does not favor the growth of other organisms. Very promptly the fever subsided, the patient felt better, and the wound began to heal. The re-entrant angles slowly but progressively closed and the skin became adherent. The rolled-in margins were trimmed off and in a short time it became possible to plant skin grafts in the center to test their ability to survive in the presence of exudate. The skin grafts grew nicely and soon fused. A little later the whole surface was covered with grafts and the wound promptly healed.

From these brief case abstracts a composite picture of this clinical entity may be outlined as follows:

The characteristic features of the infection begin gradually. What appears to be an ordinary drainage tract from a deep or subcutaneous abscess fails to follow the usual course of healing. The skin margins become undermined and the edges roll in. There is no gangrene but a gradual liquefaction of the skin margins with the production of a progres-

sive ulcer. Daughter ulcers form either by liquefaction of the skin from beneath or by the introduction of the organism from without. Sinuses form as the infection burrows down between the muscles. In lesions of the lower part of the abdomen the undermining frequently spreads down toward the groin or the pubic region extending into the vulva or scrotum or beneath the crease of the groin into the thigh. In these regions it may extend inward dissection beneath the muscles and forming deep sinuses into the pelvis. Occasionally one margin shows a spontaneous tendency to heal. However instead of progressing steadily the margin of the new epithelium may suddenly become clear cut and remain stationary for a long period of time or rapidly melt away.

In most cases the lesion is only moderately painful but in some the pain may be excruciating. There is usually a daily rise in the temperature to between 101 and 103 degrees F. This fluctuates markedly from week to week. During the periods of fever the patient is usually greatly prostrated. In the course of time the lack of response to treatment brings great discouragement and gradually breaks down the patient's morale sometimes to such a degree that the patient expresses a desire to commit suicide. After months or years of suppuration the lesion occasionally heals spontaneously but as a rule the ulcer spreads and the sinuses burrow deeply and cause death from the erosion of a large vessel or the gradual development of amyloid degeneration of the liver, spleen and kidneys.

The only effective treatment yet found is the daily application of zinc peroxide. This has been found to kill the causative organism *in vitro*. It must be thoroughly applied to every part of the infected surface. Under such treatment the sinuses will close the undermined flaps will heal and new skin will grow in from the margins. The defect may then be closed with skin grafts.

The essential organism in the infection is a hemolytic streptococcus which prefers an anaerobic environment. Its immediate source is probably the intestinal tract or the vagina. In four of the six cases reported it could be obtained only by anaerobic cultivation. In two of these it was present in pure culture. In two of the long standing cases it was found with aerobic cultivation. However even when it was obtained aerobically it was found to grow very much better anaerobically. After artificial cultivation on meat medium it gradually takes on aerobic properties and after a few generations will grow on the aerobic plate. It shows the usual cultural characteristics of beta hemolytic streptococci. It may have been originally an ordinary aerobe which adapted itself to the anaerobic environment of the intestinal tract.

ANESTHESIA

Dassen R. Pyramidal Syndrome Following Spinal Anesthesia (Syndrome pyramidal consecutivo a una raquianestesia). *Semana med.* 1935 42 1145

Sequelae of nervous origin following spinal anesthesias, such as paraplegia, radicular neuralgia, ophthalmoplegia, and encephalitis with menal confusion are well known. The condition reported by the author is not seen frequently and presents considerable difficulty in diagnosis. The author's patient had been subjected to an operation for hydronephrosis of the kidney performed under spinal anesthesia induced according to the usual technique of the service without incident. The first disturbances consisted of weakness of the left arm and leg, exaggerated reflexes and mental confusion. The blood pressure was normal and the Wasmann test negative. The condition progressed to a left sided hemiplegia but this cleared up within a period of one month under only symptomatic treatment.

WILLIAM R. MEERES M.D.

PHYSICOCHEMICAL METHODS IN SURGERY

RADIUM

Schreiner, B. F., Reinhard, M. C., and Wehr, W. H.: Telecurietherapy. *Am J Cancer*, 1935, 24 386

"Telecurietherapy" is defined as the treatment of malignant tumors with gamma rays from radium at a distance from the skin. The applicators are referred to as "cannons," "packs," or "bombs." The author prefers the term "pack."

In general, the more deeply situated the malignant process the greater should be the distance between the radium and the skin. However, the intensity reaching the skin decreases as the square of the distance employed. Large quantities of radium must be used with the greater distances. The field may be circular, square, or rectangular, and from 25 to 100 sq cm in area. A primary filter of platinum should be supplemented by a secondary filter at the bottom of the treatment cone. Records of the dosage used in telecurietherapy should state the filter, the distance, the amount and distribution of the radium, the time of the treatments, the time interval between the treatments, and the rate of the dosage. The authors have adopted the X-ray unit of intensity, the roentgen, as a unit of gamma-ray intensity although they recognize that investigators do not agree that gamma rays can be measured in the same way as X-rays. They present tables of intensity showing the percentage of the depth dosage up to 20 cm with the use of their new pack of from one to three sections and as compared with the 4-gm pack at various distances. The table is accompanied by isodose charts.

When the lesions are located at or near the surface, one field of application is sufficient. An illustrative carcinoma of the dorsum of the hand is described and shown in a photograph. Deeper lesions such as those of the pharynx and nasopharynx require two or three ports of entry for thorough irradiation. Illustrative cases are reported with isodose charts for this type of therapy. In cases of lesions deep in the pelvis the amount of irradiation reaching the lesions is usually inadequate or the time required for the treatment is so long as to be almost prohibitive.

The authors call attention to the three-section pack designed by Reinhard and Goltz. This pack with three converging beams radiates actively from 4 to 12 cm below the skin surface. Each section of the pack contains 1.5 gm of radium and irradiates a separate portion of the skin. Isodose charts from the three-section pack are shown.

In a case of advanced uterine carcinoma with fixation of the uterus the tumor yielded to twenty-five days of therapy with the delivery of 5,500 r to

each of four skin areas. The tumor dose was 4,598 r. Biopsy showed disappearance of the tumor in thirty-five days. Photomicrographs of the lesion are presented. A bladder tumor treated by the same technique with 5,060 r disappeared within two months after the treatment. In a case of adenocarcinoma of the rectum accompanied by epidermoid carcinoma of the anus in which 4,641 r were given with the three-section pack all evidence of the tumor disappeared within three months after the treatment. It is emphasized that the only treatment given in these cases was external irradiation.

A. JAMES LARKIN, M.D.

Cole, H. N., and Driver, J. R.: Radium Dosage and Technique in Carcinoma of the Skin; with Special Reference to Interstitial Irradiation with Platinum-Iridium Needles. *Am. J Roentgenol*, 1935, 33 682

This article deals with the use of platinum-iridium needles in selected cases of skin malignancy. The needles contain one, two, or three cells 15 mm in length. Each cell contains 1 mgm of radium and has a wall thickness of 0.5 mm. For the treatment of small lesions the authors prefer parallel insertion of the needles 1.0 cm apart. In cases of large growths the wheel-spoke arrangement is satisfactory. The silk sutures are soaked in 5 per cent acriflavin to prevent their digestion by the tissues during the seven-day application. Vaseline-gauze dressings are applied daily. The dosage delivered varies from 116 to 160 mgm-hrs per cubic centimeter. The patient rarely experiences any discomfort while the needles are in the tissues.

The reaction appears about a week after the beginning of the treatment, and healing is complete after about six weeks. Overdosage may delay healing for several months.

The advantages of radium irradiation over other methods are listed as follows:

1. Homogeneous irradiation of the entire area involved.
2. Continuous irradiation to catch the cells in mitosis.
3. Prevention of the development of radioresistance by a single treatment.
4. The absence of severe caustic reactions in the skin.
5. The absence of complications in bone and cartilage.
6. Accurate dosage.
7. The applicability of interstitial irradiation after failure of surface types of treatment.
8. The constant intensity of irradiation in the needles as compared with the decreasing intensity in the case of radon.

9. The possibility of treating extensive areas when great difficulty would be experienced by external irradiation alone.

The only serious disadvantage is the necessity of hospitalization.

The selection of cases is based upon the following classification: (1) rapidly growing or advanced prickly cell carcinoma; (2) extensive basal-cell carcinoma of long standing; (3) deeply growing resistant types of carcinoma with marked fibrosis; (4) malignancies over bony prominences; (5) lesions in proximity to cartilage; (6) extensive lesions overlying fascia; (7) recurrences following surgical or electrical

methods; (8) malignancy in scars resulting from burns; and (9) recurrences following other types of irradiation.

The rarely occurring metastases from these lesions are amenable to interstitial irradiation. These treatments are supplemented by external irradiation with the X-rays or Columbia paste radium packs. The hazard of injury to large vessels is overestimated. Exposure of the nodes by operation is recommended.

The authors conclude that prolonged interstitial irradiation with heavily filtered platinum radium needles is the treatment of choice in certain cases of skin carcinoma.

A. JAMES LARRY, M.D.

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

McMullin, J. J. A.: Amebiasis and Its Surgical Complications. *U. S. Nav. M. Bull.*, 1935, 33: 313

Amebic dysentery, considered a tropical disease, is now known to be endemic in the United States.

The history of amebiasis from the discovery by Lambl in 1859 of amebæ in the stools of a child with diarrhea to the discovery of the pathogenic endameba histolytica by Schaudinn is reviewed.

The malady is disseminated by fecal contamination of water, milk, or food from a small focus. The carrier may be healthy or a convalescent from acute amebic dysentery. The encysted ameba requires moisture for its continued ability to reproduce the disease. It may remain viable for several weeks in water and longer in fecal discharges. Contamination of drinking water by siphonage from defective plumbing was found to be a cause of the recent Chicago epidemic.

According to the investigations of Walker and Sellards, the incubation period averages sixty-four days. In the Chicago epidemic the shortest incubation period was five days and the longest ninety-five days.

The endameba histolytica infects its human host in the encysted form. In the terminal ileum and colon, its envelope is dissolved, discharging young amebæ which penetrate the mucosa of the bowel by means of their cytolytic ferment. From the ulcers they produce the amebæ pass by way of the portal vein to the liver where a similar coagulation necrosis occurs, causing the forming of centrifugally enlarging abscesses containing necrotic liver cells, blood, and bile. The most severe complications result from perforations of the intestine and rupture of the liver abscesses.

The most common surgical complications are perforation of the bowel following a fulminating infection and liver abscess with rupture of the abscess into an adjacent cavity or hollow viscus. Among other complications which may occur are pulmonary abscess, amebic granulomas of the colon suggesting carcinoma, polyposis of the colon, cerebral abscess, and phagedenic skin lesions.

The diagnosis of amebic abscess of the liver is difficult. It depends upon a history of antecedent dysentery together with fever, sepsis, and pain in the upper part of the abdomen on the right side associated with demonstrable enlargement of the liver and positive X-ray findings. A search for amebæ in fresh warm stools should be made.

The medical treatment of the common and severe types of amebiasis and of hepatitis and abscess of

the liver is presented in outline. The surgical treatment of amebic liver abscess includes the administration of emetine as described (never carbasone in the presence of liver damage) and local treatment of the abscess preferably by aspiration, repeated if necessary, together with irrigation of the cavity with 4 oz. of a 1:2,000 solution of emetine hydrochloride. Open operation may become imperative, but has a mortality of 30 per cent. The mortality of aspiration is 2 per cent. J. EDWIN KIRKPATRICK, M.D.

Martin, H. E., and Stewart, F. W.: Spindle-Cell Epidermoid Carcinoma. *Am. J. Cancer*, 1935, 24: 273

The authors discuss especially spindle-cell epidermoid carcinomas occurring in the zone including and surrounding the lip. They state that tumors with somewhat similar histological characteristics have been found in the larynx, esophagus, lung, cervix, bladder, and urethra.

They report eight cases of spindle-cell epidermoid carcinoma, discussing the etiology, clinical features, treatment, and end-results. The incidence of the tumors in males and females was about equal. The youngest patient was thirty and the oldest sixty-four years old. The average age was forty-five years whereas the average age of patients with carcinoma of the skin in general is fifty-eight years. The authors state that no particular significance should be attributed to this relatively early age incidence of epidermoid carcinoma as the precancerous skin changes giving rise to this tumor are most apt to begin in early adult life.

Spindle-cell carcinoma is undoubtedly most often a variety of scar-tissue cancer. In the cases reviewed the most frequent causes of scarring were: (1) repeated applications of lightly filtered low-voltage roentgen irradiation; (2) the use of the actual cautery or endothermy; (3) radium irradiation; and (4) a contused wound, possibly complicated by a foreign body.

The purely epithelial origin of the tumor cells in these spindle-cell epidermoid carcinomas has been generally recognized in Europe but not in the United States.

The importance of roentgen and other forms of irradiation in the genesis of these tumors is apparent from the authors' cases and from the literature. The impression has been gained that the pre-existing roentgen cicatrix accentuates the spindle-cell morphological characteristics of the invading tumor cells by pressure.

Spindle-cell metaplasia in epidermoid carcinoma producing lesions microscopically resembling sarcoma is not confined to tumors arising after various forms of irradiation.

It appears from the authors' material that the histogenesis of these spindle-cell epidermoid carcinomas is far from uniform. The neoplasms may arise in either the unbroken skin or the edge of a chronic ulcer. In the unbroken skin the growth seems to begin in the deeper layers of the dermis and appears first as a firm rounded nodule incorporated in the skin. As the nodule increases in size it becomes raised and rounded. As a rule it does not ulcerate until it has reached a size of from 1 to 2 cm. When the tumor begins in the edge of a chronic ulcer or recurs in an open wound after incomplete removal there is usually a rapid fungation with the formation of a cauliflower-like mass. The ulcerated surface of spindle-cell carcinoma presents the smooth glistening bluish red appearance of sarcoma rather than the roughly granular sometimes nodular pinkish red appearance so characteristic of carcinoma.

The subcutaneous tissues offer very little resistance to the local spread of the tumor, which invades without causing displacement of the tissues to a greater extent than does squamous or basal-cell carcinoma.

On the whole the progress of the disease is apt to be slow and gradual but some cases pursue a rapid course with metastases and terminate fatally in less than a year. Local recurrences are very common after any form of treatment.

According to the authors' experience spindle-cell carcinomas are not radiosensitive. The heaviest doses of radon irradiants have failed to produce sterilization of the tumor bed and have permitted recurrences after the main bulk of the tumor had undergone radionecrosis.

In many instances local excision by the scalpel is difficult or impossible because of the scattered, inelastic and relatively avascular character of the tissues in which the tumor is situated. In cases in which the growth is attached to underlying bone the use of the actual cautery or endothermy may appear to be the most feasible method for surgical extirpation. Unfortunately however the use of these caustic methods has invariably been followed by local recurrence or the development of a new tumor. Since the growth always arises in scarred tissues any caustic method by exciting the fibroblastic activity of the tissues may be responsible for the development of an entirely new tumor in an area considered to be cancer-free.

If the lesion is movable over underlying structures surgical excision is usually the treatment of choice. In cases in which the growth infiltrates widely into the subcutaneous tissues the authors recommend a wider local removal than is necessary in the former type of epidermoid carcinoma.

Local excision of the regional lymph nodes should be done if there are palpable metastases although probably the procedure is of little value. Prophylactic excision of the regional lymph nodes seems to the authors to be both unjustified and useless.

J. ALLEN K. (see 111)

1111230 A. Dispelling Fatalism in the Treatment of Cancer (Wider den Fessalismus in der Krebshandlung). *Abhandlungen und Vorträge* 1932 1: 210.

It is clear that fatalism in the treatment of cancer can be dispelled only when the results of the treatment are improved. On the other hand it is clear also that efforts to improve the results are constantly being hampered by delay. The great majority of patients with cancer do not die because cure is excluded by the nature or site of their disease but because suitable treatment was not applied before the disease reached such an advanced stage that removal of the entire disease focus or the metastases with the knife by coagulation, by irradiation or by chemical means would have required an intervention incompatible with life. In analyses of the cases of carcinoma of the stomach seen in Biler's clinic between the years 1914 and 1930 it was that two-thirds of the patients entered the clinic in an inoperable and hopeless condition. In many cases the symptoms were first noted by the patient or treatment was first given by a physician only from three to six months previously. However the general digestive disturbances had long been advanced to foul eructation and persistent vomiting, attacks of pain had become more severe and radiated toward the back and a sudden loss of weight amounting to 30, 50 or 80 lb. had occurred.

In cases which still present favorable prospects the incidence of five year cure from radical operations is about 30 per cent and if the disease is limited to the stomach itself the mortality of the operation will be low. Patients of a younger age with a larger but more especially with a shorter history of a tumor the size of a fist and involvement of the regional lymph nodes have been cured permanently. No special histological type of cancer has proved to be absolutely unfavorable to permanent cure. The patient with gastric symptoms feels ill and needs help. However it is often assumed that he is suffering from catarrh of the stomach and he is treated accordingly. If the treatment is unsuccessful the physician does not recognize his mistake but tries the remedy or the patient changes his physician or attempts self treatment. The attitude is the same in relation to carcinoma of the rectum in which the constipation and the supposed hemorrhoids are treated medically for a long time before a proper examination is made. In order such conditions to be recognized in the diagnosis of cancer one must wait until the patient is beyond help while he might have been helped if they are recognized.

In the great majority of malignant tumors the primary focus is almost always a well circumscribed degeneration while the regional and distant metastases are cellular neoplasms which have originated in the primary focus. Therefore if the primary focus is removed completely all metastases can disappear. It is only any further metastases become fatal while the primary focus remains healthy. It has been found previously and this has been proved later. It never as every experiment of cure

knows, true late recurrences and true late metastases developing from such latent rests or metastatic foci are very rare. Lamentable as they are in the individual case, they are of little importance in a comprehensive survey of cancer. They afford no justification for regarding the fate of all patients with cancer with pessimism, indeed, they are so rare that after the fifth year the mortality of patients treated for cancer successfully runs parallel with the natural mortality curve for persons of the same age in the general population.

If suitable treatment given in the early stages, as in Stage 1 of carcinoma of the breast, does not always lead to healing, the reason is that the purely local focus is often assumed to be in Stage 1 when it has already passed that stage. In very few cases is the diagnosis of Stage 1 confirmed by a thorough microscopic examination of the entire specimen and the regional lymph nodes. The reproach of pathologists that a considerable number of bedside diagnoses of malignant tumor are shown at autopsy to have been incorrect is based for the most part only on factors of lesser importance such as confusion of carcinoma with sarcoma and of metastasis with the primary tumor. Incorrect clinical diagnoses leading to incorrect treatment are in fact very rare in cases of cancer.

Although modern diagnostic aids and treatment are still far from being fully utilized and only a small percentage of the patients receive proper treatment at the right time, nevertheless very encouraging results are being obtained. The author's material shows a large number of cases of skin cancer and breast cancer which have remained cured over long periods of observation, and numerous cured cases of cancer of the uterus have been reported from gynecological clinics. The incidence of five-year cure ranges from 60 to 70 per cent. Similar success has been obtained in carcinoma of the lip, and many good results in cases of tumor of the oropharynx and laryngeal carcinoma have been recorded.

Chiefly responsible for the improvement in all these statistics is irradiation, which is replacing or complementing operation. In cases of rectal carcinoma, purely surgical progress has recently reduced the primary mortality to 4 per cent and increased the incidence of five-year cure to 46.6 per cent. Further progress in the treatment of carcinoma is hoped for from electrosurgery. In small series of cases of carcinoma of the upper jaw and of the breast favorable results have already been obtained by this treatment. However, there remains for irradiation an undiminished field of successful activity, that of postoperative recurrence, which continues to appear with scarcely any abatement in spite of the brilliant advances of operative procedures. In many cases of recurrence, definite cure can be obtained by irradiation and in many others recurrences which develop repeatedly and at different sites can be kept localized and under control for years so that the patient's life is little shortened

and the general condition remains fairly good. The cancer therapist's patients who are being irradiated for recurrence are the most difficult to treat, but are also his most grateful patients. Of course, it is better to treat invisible recurrences, that is, to give prophylactic irradiation, than to wait for them to become manifest. The manner in which this can be done successfully in cases of breast carcinoma has been discussed by the author elsewhere.

Hintze concludes with the statement that all of his investigations have taught him that, for the most part, the unfavorable factors in cases of cancer are not the nature and site of the disease, but rather what the patient and his physicians do or leave undone, which can be controlled.

(A HINTZE) FLORENCE ANNAN CARPENTER

Maisin, J., and Pourbaix, Y.: Growth-Promoting and Growth-Inhibiting Substances Extracted from Normal Organs. An Experimental Study of Diet in Tar Cancer. *Am J Cancer*, 1935, 24, 357.

On the basis of the premises that cancer is a constitutional as well as a local disease, studies were undertaken on a large scale to find in normal organs some substance which will inhibit cancer growth.

The experiments here reported were carried out with tar cancer in white mice, as this variety of tumor seemed to offer the best material for both prophylactic and therapeutic studies as well as a precancerous stage for observation.

It was found that liver, pancreas, and intestinal mucosa added to the food of tarred mice promotes cancer growth. Brain, thymus, bone marrow, dried gastric mucosa, and dried lymph nodes inhibits the development of tar cancer. The same organ may contain both growth-inhibiting and growth-promoting factors. This is true of brain tissue.

The growth-promoting substances are for the most part soluble in water and relatively insoluble in ether. The growth-inhibiting substances are soluble in ether or removed by it. They are relatively insoluble in acetone, the soluble portion being precipitated by calcium. The anti-anemic factor added to the diet in pure form has no influence on the growth of tar cancer. GEORGE A. COLLETT, M.D.

DUCTLESS GLANDS

Bauer, W.: The Parathyroid Glands in Health and Disease. *Virginia M Month*, 1935, 62, 123.

The chief function of the parathyroid glands is the regulation of calcium and phosphorus metabolism. The bones, composed chiefly of a complex calcium salt containing calcium phosphate and carbonate ions, are the only storehouse of calcium and phosphorus in the body. The serum calcium varies normally from 9.5 to 11 mgm, and the serum inorganic phosphorus from 3.5 to 4.5 mgm, per 100 c cm. The maintenance of this relative state of constancy is ample evidence that the bones are

labile structures. In times of need the calcium and phosphorus are absorbed from the bones and in times of excess are deposited in the bones. The bone trabeculae apparently serve as the most readily available depot, the cortex being at first spared in the process of mobilization. When present in the blood in excess amount, calcium and phosphorus are given up by the blood to the bones. This state of supersaturation of the blood with consequent deposition of calcium and phosphorus in bone is brought about by the action of the enzyme, phosphatase.

The entrance of calcium and phosphorus into the system is dependent upon their absorption from the gastro-intestinal tract. The amounts absorbed depend upon (1) the composition of the diet (2) the acidity of the gastro-intestinal tract (3) the intestinal rate, (4) fat digestion and absorption, and (5) the supply of Vitamin D. Of these various factors the diet and the supply of Vitamin D are probably the most important. If any of these factors is at fault for any considerable period of time, the absorption of calcium and phosphorus from the gastro-intestinal tract is interfered with and a negative calcium and phosphorus balance results. This disturbance is responsible for such diseases as rickets and osteomalacia.

Under normal conditions calcium and phosphorus are lost from the body by way of the gastro-intestinal tract and kidneys. On a normal diet the fecal calcium consists of both the unabsorbed dietary surplus and that which has been re-excreted into the bowel. Increased excretion by these avenues occurs in atrophy of disuse and in some cases of osteitis deformans but in these conditions the increase is slight as compared with that occurring in acidosis, hyperthyroidism and hyperparathyroidism. If the increased excretion exceeds the intake a negative balance results and the latter if persistent results in marked generalized decalcification.

Many observers have demonstrated that the parathyroid hormone causes increased excretion of calcium and phosphorus which also eventually results in generalized decalcification. Thus, when parathormone is administered the first metabolic changes are a rise in the excretion of phosphorus in the urine and a fall in the inorganic phosphorus in the serum.

In the attempt to maintain the normal blood phosphorus level phosphorus is then released from the bones. The calcium deposited with the former is also released so that the serum calcium rises, the urinary calcium increases and the low serum phosphorus and increased phosphorus excretion continue.

Clinical cases of hypoparathyroidism and hyperparathyroidism are not infrequently encountered. The former may be due to operative removal of parathyroid glands or to spontaneous disease of unknown cause. Hyperparathyroidism may be due to focal hyperplasia (adenoma or neoplasm) of one or more of the parathyroid glands or to generalized enlargement and hyperplasia of all of the para-

thyroids. Irrespective of the cause hyperparathyroidism is characterized by paresis/paralysis muscular pains and cramp, carpal/peadal spasm, laryngismus and loss of consciousness. Laboratory tests reveal a low serum calcium and a high serum phosphorus. It is usually possible to elicit a positive Chvostek and Trousseau sign as well as evidence of increased excitability of nerves (Erb's sign).

Hyperparathyroidism may be manifested clinically in the following forms: (1) von Recklinghausen's disease or generalized osteitis fibrosa cystica, (2) osteoporosis, (3) nephrolithiasis, (4) acute parathyroid poisoning, and (5) a condition simulating or complicated by Paget's disease. The increased production of parathyroid hormone produces the characteristic changes in calcium and phosphorus metabolism observed in a normal individual receiving an active parathyroid extract, namely: an elevated serum calcium, a low serum phosphorus, an elevated serum phosphatase, an increased calcium excretion and an increased phosphorus excretion. The increased calcium and phosphorus excretion causes a rapid generalized decalcification in which the most pronounced changes occur in the long bones, spine, sacrum, pelvis, skull, jaw and flat bones of the thorax. The short tubular bones, phalanges and tarsal bones show the least transformation.

Hypercalcaemia and hyperphosphataemia are often responsible for the formation of renal calculi. The other types of renal complications are: (1) pyelonephritis secondary to calcium phosphate stones, (2) nephrocalcinosis with the precipitation of calcium phosphate in the tubules, and (3) calcium deposits in the kidney as well as other organs in acute parathyroid poisoning.

No single sign is diagnostic of hyperparathyroidism. The signs may be divided into three groups, i.e. hypercalcaemia, skeletal changes and increased excretion of calcium and phosphorus. The symptoms due to hypercalcaemia, consists of anorexia, nausea, vomiting, abdominal pain, constipation, lassitude, weakness and loss of weight. Hypotonia is common. Signs due to skeletal changes are dependent upon the duration and severity of the condition. Spontaneous fractures, bone pain, bone tumors, kyphosis, loss of height, a waddling gait or limp are common. Symptoms referable to hypercalcaemia and hyperphosphataemia consist chiefly of polyuria and polydipsia. These may be so marked as to suggest diabetes insipidus. Fractures and necrosis are not uncommon. Pain on urination may be due to the passage of gravel or a small stone. In some cases renal colic is the first and only symptom. In these no bone changes may be demonstrable on X-ray examination.

In the final analysis the differential diagnosis depends not so much on the symptoms as on laboratory studies. In most instances determination of the calcium and phosphorus content of the serum suffices but occasionally complete metabolic studies are necessary. Bone biopsy is rarely required. The

skeletal diseases most often confused with hyperparathyroidism are osteomalacia; osteoporosis due to senility, hyperthyroidism, disuse or inactivity, a basophilic adenoma of the pituitary or a tumor of the suprarenal cortex; Paget's disease, solitary bone cysts; solitary benign giant-cell tumor, osteogenesis imperfecta, multiple myeloma, metastatic malignancy, Schueller-Christian disease, Gaucher's disease, erythroblastic anemia, and radium poisoning.

The treatment is essentially surgical. In cases of adenoma of one parathyroid gland, the involved gland is removed provided one or more normal parathyroids have been identified and are left *in situ*. The most severe tetany observed by the author after operation occurred in patients with the most extensive decalcification. Bauer attributes this to the too rapid deposition of calcium and phosphorus in the previously depleted bones rather than to atrophy or disease of the other parathyroid glands. In such cases, subtotal resection of the tumor is usually done. If the symptoms persist, the remainder of the gland is removed later. The treat-

ment of generalized hyperplasia varies, but it is the custom of the author's associates to remove approximately three-quarters of the total parathyroid tissue identified.

Following operation for either type of hyperparathyroidism, metabolic changes are demonstrable in a few hours. The serum calcium falls rapidly, while the serum phosphorus is slow to rise to its normal value. An elevated plasma phosphatase may take weeks or months to return to the normal level. A marked decrease in the calcium and phosphorus excretion occurs within a few hours. Symptomatic improvement is soon noticed and is at times dramatic. Bone pain may be one of the first symptoms to cease, despite the fact that rarefaction may be present for months. Bone tumors gradually disappear, but cysts remain. The author doubts if the calcium deposits in the kidney are ever absorbed. Marked skeletal deformities of course remain unchanged.

An extensive bibliography is appended.

ARTHUR S W TOUROFF, M D

BIBLIOGRAPHY of CURRENT LITERATURE

NOTE—THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

Head

- A case of extensive fracture of the skull. **K. J. B. DAVIS** Royal Prince Alfred Hosp. Year Book 1935 p. 151
- A study of 100 cases of skull fractures followed from five to thirteen years. **D. E. EARLEY** J. Am. M. Ass. 1935 104 233
- The anatomy and pathology of the diploic veins. **R. WANKER** 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935 [318]
- A benign mixed tumor of the parotid gland with wide intra-oral extension. **B. BREITNER** Med. Klin. 1935 1 510
- Osteomyelitis of the mandible. **J. J. WOLFE** Chinese M. J. 1935 49 422
- Resection of the submandibular gland with the report of a case of extravasation of saliva into the sublingual space. **H. B. SMITH** and **E. H. COON** Arch. Otolaryngol. 1935 21 1
- The selective treatment of malignancy about the head. **T. C. GALLOWAY** Ann. Otol. Rhinol. & Laryngol. 1935 44 450

Eye

- Megalobphthalmos. **W. S. DAVIES** Am. J. Ophthalm. 1935 18 542
- Visual allergy to light and intolerance to light: treatment by tinted lenses. **L. LEHRFELD** Arch. Ophthalm. 1935 13 992
- Pelluc effects from critical seeing. **M. I. UCHIKAWA** and **F. F. MOSS** Am. J. Ophthalm. 1935 18 527
- Orthoptic training and surgery in hyperphoria and heterophoria combined with lateral deviations. **C. BENEVA**, **R. F. LAYNE** and **D. KERN** Am. J. Ophthalm. 1935 18 508
- The classification of the causes of blindness. **A. F. MACCALLAN** Brit. J. Ophthalm. 1935 19 338
- Benign lesions of the eye, ear, nose and throat. **G. A. ROBINSON** Am. J. Roentgenol. 1935 11 801
- The eyes as related to sinusitis. **J. A. SMITH** J. Med. Ass. Georgia 1935 24 219
- A study of an ocular infection induced experimentally with bacterium monocytogenes. **M. C. MORRIS** and **L. A. JULIANELLI** Am. J. Ophthalm. 1935 18 535
- Parenteral injection of foreign protein in the treatment of gonococcal ophthalmia. **J. B. HAMILTON** Med. J. Australia 1935 1 772
- The use of prostheses over unsightly eyes. **C. O. SCHWETTER** Am. J. Ophthalm. 1935 18 555
- Infra red photography of the eye. **B. A. MAXX JR.** Arch. Ophthalm. 1935 13 935
- Pregl's solution in the treatment of ocular condyloma. **A. COWAN** and **J. S. JORDAN** Pennsylvania M. J. 1935 38 704
- A new radiation lamp for local therapy. **F. W. LAW** Brit. J. Ophthalm. 1935 19 305
- Conjunctival myiasis. **M. W. LYON JR.** Am. J. Ophthalm. 1935 18 547

- Acute purulent conjunctivitis due to the micrococci. Report of a case. **S. R. GUTKOPF** and **A. A. DAY** Arch. Ophthalm. 1935 13 1038
- The trachoma problem. **R. E. WEAVER** Brit. J. Ophthalm. 1935 19 309
- The campaign against trachoma. **E. DE GROOT** Brit. J. Ophthalm. 1935 19 318
- Social and administrative measures against trachoma. **ZACHARY** Brit. J. Ophthalm. 1935 19 321
- Legal and social measures against trachoma in Japan. **MIYASAKI** Brit. J. Ophthalm. 1935 19 323
- Trachoma in China. **S. S. MEYER** Brit. J. Ophthalm. 1935 19 326
- The ultraviolet of trachoma virus. **P. THOMPSON** and **F. J. PROCTOR** Arch. Ophthalm. 1935 13 1018
- Primary carcinoma of the meibomian gland. **J. E. LEBENOWITZ** Am. J. Ophthalm. 1935 18 452
- Hydatid cyst of the orbit. **C. MORARO** Rev. de chir. [118]
- Oil cyst of the orbit with carcinomatous. **A. C. JONES** Am. J. Ophthalm. 1935 18 532
- Orthoptic treatment of squint. **A. M. HIRSH** and **G. A. HOSROD** Arch. Ophthalm. 1935 13 1026
- Bilateral congenital deficiency of abduction with strabismus (Duane syndrome). Report of a case. **W. G. MEE** et al. Arch. Ophthalm. 1935 13 985
- The influence of exophthalmos on the function of palpebral muscles. **A. BIELSCHOWSKY** Am. J. Ophthalm. 1935 18 503
- Cornual pitting. **H. HERRERT** Brit. J. Ophthalm. 1935 19 101
- A simple instrument for extracting the rust from the bed of a corneal foreign body. **J. H. HILKA** Arch. Ophthalm. 1935 13 1035
- Cornual grafting: reparative and optical. **R. T. WEAVER** Brit. J. Ophthalm. 1935 19 341
- Gonophotography. **R. CASTROVINO** Am. J. Ophthalm. 1935 18 544
- The clinical relationship of infections in the upper respiratory tract to certain types of chronic uveitis: a preliminary report. **W. B. CILL** Ann. Otol. Rhinol. & Laryngol. 1935 44 486
- The applicability of the Kronlein operation for the removal of exotropia of the posterior half of the eye. **A. J. BRICK** Arch. Ophthalm. 1935 13 1042
- The aging lens. **R. VON DER HEYDT** Am. J. Ophthalm. 1935 18 545
- Ectopia lentis. A report of twenty-two cases in five successive generations. **B. N. PITTSCHER** Arch. Ophthalm. 1935 13 1051
- A summary of 100 Barraquer cataract extractions. **O. WOLFE** Arch. Ophthalm. 1935 18 556
- A new after-cataract technique. **D. M. BARTMAN** Am. J. Ophthalm. 1935 18 556
- Chromatography of the vitreous humor. **H. LIPINSKY** and **C. KRAUSE** Arch. Ophthalm. 1935 13 1012

The calcium content of the sclerotic and its variation with age. A. SORSEBY, K. WILCOX, and D. HALL. *Brit. J. Ophth.*, 1935, 19, 327.

Trauma and retinal detachment. W. P. C. ZELMAN and H. J. OLTMANN. *Arch. Ophth.*, 1935, 13, 971.

The modern treatment of detachment of the retina. HOPF-ROBERTSON. *New Zealand M. J.*, 1935, 34, 170.

Partial detachment of the retina treated successfully with Shahan's thermophore. H. M. LINDON. *Am. J. Ophth.*, 1935, 18, 550.

A short-stop bident electrode for diathermic treatment of the separated retina designed for rapid performance with a minimal loss of fluid. C. B. WALKER. *Arch. Ophth.*, 1935, 13, 1036.

The present state of the operative treatment for detachment of the retina in Europe. A. KNAPP. *Arch. Ophth.*, 1935, 13, 1014.

The vascular basis of tobacco amblyopia, treatment with nitroclerol. W. F. DUGGON. *Arch. Ophth.*, 1935, 13, 1039.

Acetylcholine in embolism of the retinal artery. H. C. OPE and J. H. YOUNG. *Brit. M. J.*, 1935, 1, 1110.

Juvenile macular exudative retinitis (Juniuss). W. T. DAVIS and E. SNEPPARD. *Arch. Ophth.*, 1935, 13, 980.

Ear

The ear and cranial trauma. A. B. MURPHY. *Arch. Otolaryngol.*, 1935, 21, 656.

The present status of audiometry. J. H. HULKA. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 544.

A method to determine the percentage of deafness in malingers. F. W. DIXON. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 483.

The syndrome of diplacusis and nerve deafness for low tones. G. E. SHAMBAUGH. *Arch. Otolaryngol.*, 1935, 21, 694.

The deafness of Beethoven. I. FRANK. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 327.

The medical aspects of hearing conservation in the New York schools. E. P. FOWLER. *Laryngoscope*, 1935, 45, 435.

Objective and subjective tinnitus aurium of vascular origin, the report of a case presumably due to cerebral aneurism. P. VIOLE and A. LOVE. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 418.

Biochemistry relative to otolaryngology. R. N. HAPGER. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 411.

Blood studies in otolaryngology. W. V. MULLIN. *Pennsylvania M. J.*, 1935, 38, 675.

Septicopyemia from sinobulbojugular thrombophlebitis, operation. A. AGRA and F. GAMES. *Rev. Asoc. med. argent.*, 1935, 49, 202.

Discharging ears treated by the iodine powder method. R. H. BETTINGTON. *Med. J. Australia*, 1935, 1, 747.

Chronic effusion into the right middle ear, retrobulbar neuritis in the right eye. E. A. PETERS. *Proc. Roy. Soc. Med., Lond.*, 1935, 28, 1108.

Ménière's syndrome endolymph decompression with symptomatic improvement. Report of a case. S. N. PARKINSON. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 382.

The syndrome of Gradenigo, anterior petrositis, apical abscess, Holmgren-Frenkner operation, cure. J. M. TATO and A. BETTIA. *Rev. Asoc. med. argent.*, 1935, 49, 104.

The physiological basis of physical measures in otolaryngology. R. KOVACS. *Laryngoscope*, 1935, 45, 480.

The scientific status of physical therapy in otology. A. R. HOLLENDER. *Laryngoscope*, 1935, 45, 471.

Ear disease as a menace to life. T. GUTHRIE. *Practitioner*, 1935, 134, 780.

Complications of otitis media involving the petrous pyramid. W. H. EVANS. *Ohio State M. J.*, 1935, 31, 441.

Suppuration in the pneumatic petrous apex. H. K. TAYLOR. *Am. J. Roentgenol.*, 1935, 33, 767.

Subcortical fistulas of the anterior surface, their management in suppuration of the petrous pyramid. M. C. MYERSON, H. RUBIN, and J. G. GILBERT. *Arch. Otolaryngol.*, 1935, 21, 677.

Conservatism in petrosal empyema. C. HALL. *Laryngoscope*, 1935, 45, 421.

Pathways of approach to the petrous pyramid. M. F. JONES. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 458.

Sources of error in radiography of acute mastoiditis. L. A. SYTHI. *J. Indiana State M. Ass.*, 1935, 28, 280.

Acute mastoiditis. H. S. BROWNE. *J. Oklahoma State M. Ass.*, 1935, 28, 210.

Silent mastoiditis. G. D. WOLF. *J. Am. M. Ass.*, 1935, 104, 2315.

The cortical mastoid operation. R. SALKELD. *Brit. M. J.*, 1935, 1, 1160.

Indications for the Bondy type of modified radical mastoid operation. H. I. LILLIE. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 337.

Mastoidectomy with a perosteal flap. R. A. BERGAP and C. BERGARA. *Semana med.*, 1935, 42, 1397.

Nose and Sinuses

Ventilation of the nose and accessory sinuses. J. F. O'MALLY. *J. Laryngol. & Otol.*, 1935, 50, 359.

Two new features for the nasopharyngoscope and allied instruments, revision of the lighting system and a new type of direction finder. L. K. PITMAN. *Arch. Otolaryngol.*, 1935, 21, 719.

Nasal and bronchial allergy in childhood. A. H. ROWE. *Arch. Otolaryngol.*, 1935, 21, 653.

The importance of rhinological diagnosis in allergic disease. H. L. BROWN. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 500.

Notes regarding a case of membranous rhinitis associated with allergy. D. B. KELLY. *J. Laryngol. & Otol.*, 1935, 50, 444.

An intramucosal test for hypersensitivity in allergic rhinitis. L. W. DEAN, L. D. LINTON, and C. S. LINTON. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 317.

Surgical procedures in the treatment of chronic atrophic rhinitis. B. F. MACNAUGHTON. *Canadian M. Ass. J.*, 1935, 32, 678.

A critical analysis of methods of physical therapy in rhinology. L. M. HUPP. *Laryngoscope*, 1935, 45, 468.

Larocaine as a local anesthetic for the nose, throat, and endobronchial surgery. H. L. STITT. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 474.

The rapidity with which mucosal changes can take place in the nasal accessory sinuses. K. S. CROSS. *Australian & New Zealand J. Surg.*, 1935, 4, 424.

A review of the interrelationship of paranasal sinus disease and certain chest conditions, with especial consideration of bronchiectasis and asthma. J. G. McLAREN. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 344.

A discussion on the treatment of chronic infection of the nasal accessory sinuses. *Proc. Roy. Soc. Med., Lond.*, 1935, 28, 963.

Neoplastic lesions of the accessory sinuses and orbit. W. L. CLARK. *Med. Rec., New York*, 1935, 141, 509.

The operative treatment of nasal sinus disease. E. D. SEWELL. *Ann. Otol., Rhinol. & Laryngol.*, 1935, 44, 307.

Some features in sinus operations and therapy. J. PRENN. *Laryngoscope*, 1935, 45, 452.

- A clinical study of the functioning of the maxillary sinus mucosa F KING Ann Otol Rhinol & Laryngol 1935 44 450
 Chronic maxillary sinus disease in the adult S S HALL and H V THOMAS West Virginia M J 1935 31 249

Mouth

- Reconstructive plastic and oral surgery A F SMITH California & West Med 1935 42 432
 The treatment of the markedly projecting premaxilla in double barrel palate cleft palate F FEINMANN Zentralbl f Chir 1935 p 434
 Cleft palate W E M WARDILL Lancet 1935 229 1415
 A late report of a case of plastic repair of the cheek A EPELBERG Schweiz med Wchschr 1935 1 25
 Aberrant salivary glands in the lips R L PELLER and ROSSI Rev med lat Am 1935 20 581
 Tar cancer of the lip in fishermen J SHAMBAUGH J Am M Ass 1935 104 235 [319]
 Cylindroma of the palate F CELLI Frankfurt Ztschr f Path 1935 4 469
 Some interesting and unusual lesions of the oral mucous membrane A R WOODRUFFE J Michigan State M Soc 1935 34 384
 Leucoplakia oralis C M ERLSTEIN Illinois M J 1935 67 217
 Cancerous ulcers in ancient Rome W J RUTHVEN Brit J Child Dis 1935 32 120
 The diagnosis and differential diagnosis of cancer of the tongue H M LITZER Monatschr f Krebshepflg 1935 3 97 [320]
 Irradiation therapy of malignant tumors of the oral cavity eye ear nose and throat C L MAPSTON Ann Otol Rhinol & Laryngol 1935 44 426
 Results of radium therapy for cancer of the tongue F J JONCHERES Rev med Lat Am 1935 20 581

Pharynx

- Pharyngo-esophageal diverticula Treatment by one stage resection H R BILLYT J de chir 1935 45 747 [321]
 Pharyngo-esophageal diverticula an improved technique for surgical treatment D DEL VALLE A YONICE and A MARANO Seman med 1935 42 14 7
 Stenosis of the tonsil a report of two cases F S MARVIN Larvogoce 1935 45 466
 The tonsil and adenoid operation D F A NELSON Lancet 1935 2 1 1387
 The need for improved technique in tonsillectomy A F HOLMES Laryngoscope 1935 45 458
 Surgical emphysema of the head neck and chest complicating tonsillectomy and a review of the literature C J LINDENBAUM Ann Otol Rhinol & Laryngol 1935 44 504

Neck

- Cervical ribs S ROBINSON C S STONE JR and A H ELLER West J Surg Obst & Gynec 1935 43 205
 Scaevius anticus (Naffziger) syndrome A OCHTER M GAGE and M DEBAKEY Am J Surg 1935 38 669 [321]
 A syndrome of pain and paralysis arising from inflammations of the prevertebral space A W PRITZ Ann Otol Rhinol & Laryngol 1935 44 171
 Surgical approaches to deep suppuration in the neck and the posterior mediastinum S SOLAUER Arch Otolaryngol 1935 21 707

- Cysts and fistulas of the neck R D RUSSELL Ann Otol Rhinol & Laryngol 1935 44 512
 Amygdaloid cysts of the neck A J PAVLOVSKY and A PAVLOVSKY Bol y trab Soc de cirug de Buenos Aires 1935 10 115 [322]
 Struma of an accessory carotid body F ROESSLER Arch f klin Chir 1935 181 571
 Tumor of the carotid body H DIENER Bol y trab Soc de cirug de Buenos Aires 1935 10 124 [323]
 Tumor of the carotid body R V HERNANDEZ Bol y trab Soc de cirug de Buenos Aires 1935 10 139
 Radium in the treatment of metastatic epidermoid carcinoma of the cervical lymph nodes D GERICKE Ann J Roentgenol 1935 35 677 [324]
 The biochemical basis of thyroid function C R HARTVON Lancet 1935 228 1261
 The thyroid and senescence Structural transformations of the thyroid in old age and their functional interpretation G C DOGLIOTTI and G N NUTT Endocrinology 1935 19 264
 Fat tolerance in hyperthyroidism O E HEPLER Arch Int Med 1935 55 979
 Gynecomastia during hyperthyroidism P STARR J Am M Ass 1935 104 1988
 Chronic arthritis in hyperthyroidism and myxedema R J MOORE New England J Med 1935 212 1074
 Goiter J H HALLIDAY Royal Prince Alfred Hosp Year Book 1934 p 200
 Consideration of goiter J F HIGGINS J Med Soc New Jersey 1935 32 341
 Adenomatous goiter F W RANKIN and A E GIBBS Kentucky M J 1935 33 273
 A new suggestion for the prophylaxis of endemic goiter and cretinism J ELSTER Therap d Gegenw 1935 115
 The surgical treatment of toxic goiter M K SMITH Ann Surg 1935 101 1338
 Results and experiences in the treatment of Basedow's disease with the serum strumatorum J DEISING Med Welt 1935 p 306
 Lorgental teratomas of the thyroid gland L C FRUCH and C M NELSON Am J Cancer 1935 23 791
 Other laboratory methods in the handling of thyroid disease C D MARON JR Am J Surg 1935 8 841
 The technique of cricothyroidectomy of choice in thyroidectomy F P LASARATAS Medicina 1935 6 41
 The superior laryngeal nerve and the superior pole in thyroidectomies C H FRAZER and W H LAM Ann Surg 1935 101 1335
 A discussion of the mortality following operation on the thyroid gland in Atlanta from 1919 to 1933 inclusive B H CURRIE J Med Ass Georgia 1935 24 212
 The parathyroid glands D I OCHTERBARTON and W A MACKAY Glasgow M J 1935 123 249 [324]
 Hyperparathyroidism clinical diagnosis and operative technique of parathyroidectomy F H LAWRENCE and G E HARGART Surg Gynec & Obst 1935 60 1033
 Embolism in dysphagia ventricularis C H VOORREFF Ann Otol Rhinol & Laryngol 1935 44 471
 Chronic laryngeal stenosis F LITJEN and V OVEN Ann Otol Rhinol & Laryngol 1935 44 454
 Electrosurgery in laryngeal and pharyngeal tuberculosis G H B TERRY South M J 1935 28 500
 Foeternal radiation necrosis of the larynx and other structures of the neck P A NELSON and F F HERRIN J Am M Ass 1935 228 2516 [325]
 Sarcoma of the larynx a report of two cases G B NEW Arch Otolaryngol 1935 21 648
 Total laryngectomy P C HERT and M ESCOFF Presse med Par 1935 43 793

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

The prognosis of craniocerebellar trauma BASTOS
Prog de la clin, Madrid, 1935, 23 301

The symptomatology of traumatic subdural hematomas
R DIEULAÏF Rev de chir, Par, 1935, 54 392 [326]

Bravais-jacksonian epilepsy, surgical intervention,
chronic arachnoiditis, recovery D FÉREY Bull et mém
Soc nat de chir, 1935, 61 695

The diagnosis of brain abscess in general—rhinogenic
abscess in particular H D MCINTYRE J Med, Cincinnati, 1935, 16 182

Some cases of cerebral tumor interesting from the stand-
point of differential diagnosis S ECKERSTROM Acta med
Scand, 1935, 85 244

The reliability of brain-tumor localization by roentgen
methods F J HODGES and V C JOHNSON Am J
Roentgenol, 1935, 33 744

The responsibility of the roentgenologist in the detection
of intracranial tumors K KORNBLUM Am J Roent-
genol, 1935, 33 752 [326]

Metastatic tumors of the brain J ST C ELKINGTON
Proc Roy Soc Med, Lond, 1935, 28 1080

Alexander Hughes Bennett and the first recorded case in
which an intracranial tumor was removed by operation
E BRAMWELL Edinburgh M J, 1935, 42 312

The indications and results of surgical operations for in-
juries to the brain and spinal cord due to tumors O
HOCH Deutsche Ztschr. f Chir, 1935, 244 582

The relation between circulation in the brain and cerebral
pressure D SCHNEIDER 59 Tag d deutsch Ges f
Chir, Berlin, 1935

Decompressive splitting of the tentorium cerebelli N
GULECKE 59 Tag d deutsch Ges f Chir, Berlin, 1935

The treatment of intracranial hemorrhage resulting from
cisternal puncture W E DANDY Bull Johns Hopkins
Hosp, Balt, 1935, 56 294

Operative experiences with 700 neurosurgical procedures
L SCHOENBAUER 59 Tag d deutsch Ges f Chir,
Berlin, 1935

The permissibility of resection of the longitudinal sinuses
of the brain W TOENNIS Deutsche Ztschr f Nerven-
heilk, 1935, 136 186

The formation and development of reactionless post-
operative cerebral scars A ALEXANDER Arch f klin
Chir, 1935, 182 114

The treatment of tumors in the posterior portion of the
third ventricle W TOENNIS 59 Tag d deutsch Ges f
Chir, Berlin, 1935

The relation of the Cushing syndrome to the pars inter-
media of the hypophysis W G MCCALLUM, T B
FUTCHER, G L DUFF, and E ELLSWORTH Bull Johns
Hopkins Hosp, Balt, 1935, 56 350

The roentgenological diagnosis of tumors occurring in
the sellar region B H NICHOLS Am J Roentgenol,
1935, 33 733

Eosinophile adenomas of the pituitary gland E L
SUSMAN Royal Prince Alfred Hosp Year Book, 1934, p
198

Tumor of the pineal gland (pinealocytoma) with menin-
geal and neural metastases E D FRIEDMAN and A
PLAUT Arch Neurol & Psychiat, 1935, 33 1324

The syndrome of the point of Rocher G MARINESCO
and D GRIGORESCO Arch argent de neurol, 1935, 12 80

Evaluation of symptoms in meningitis and brain abscess
M A WEINSTEIN Laryngoscope, 1935, 45 427

Streptococcal otogenic meningitis, operation, recovery,
recurrent staphylococcal meningitis, operation, recovery
S L ARAUZ and J M TARO Rev Asoc med argent,
1935, 49 198

The treatment of meningioma of the tenorium W
TOENNIS 59 Tag d deutsch Ges f Chir, Berlin, 1935

Enlargement of the defect in the air shadow normally
produced by the choroid plexus C G DYKE, C A ELS-
BERG, and L M DAVIDOFF Am J Roentgenol, 1935,
33 736 [327]

Papilloma of the choroid plexus A FEHR Deutsche
Ztschr f Chir, 1935, 244 252

Intracranial arteriovenous fistula III Diagnosis by
the discovery of arterial blood in the jugular veins B T
HORTON, L H ZIEGLER, and A W ADSON Arch Neurol
& Psychiat, 1935, 33 1232

Pitfalls in the diagnosis of trigeminal neuralgia P D
BRADDON Royal Prince Alfred Hosp Year Book, 1934,
p 195

The surgical treatment of trigeminal neuralgia C.
CHANG Chinese M J, 1935, 49 412

Paroxysmal neuralgic tic as a sequel of trigeminal
neuritis W HARRIS Brit M J, 1935, 1 1112

Bilateral facial paralysis Spinofacial anastomosis and
resection of the superior cervical ganglion on both sides
H COSTANTINI and E CURTILLET Lyon chir, 1935, 32
291 [327]

Autoplastic nerve grafts in facial palsy J H FOSTER
Ann Otol, Rhinol & Laryngol, 1935, 44 521

Flying blind, a study in the physiology of the eighth
nerve I H JONES and W C OCKLER Laryngoscope,
1935, 45 405

Confusing symptoms in acoustic nerve tumors C T.
UREN and B C RUSSUM Ann Otol, Rhinol & Laryngol,
1935, 44 442

Radical operation for tumor of the acoustic nerve by
transverse division of the cerebellum H HABERER-KROM-
SCHOENSTEIN 50 Tag d deutsch Ges f Chir, Berlin,
1935

Spinal Cord and Its Coverings

The treatment of trophoneurotic ulcers by division of the
cord BESSIN, Zentralbl f Chir, 1935, p 1144

Syringomyelia and intramedullary tumor of the spinal
cord R P MACKAY and J FAVILL Arch Neurol &
Psychiat, 1935, 33 1255 [328]

Teratoma of the spinal cord P C BUCY and D N
BUCHANAN Surg, Gynec & Obst, 1935, 60 1137.

Hypertrophied cervical pachymeningitis and acute in-
jury from myelography M SEIBNER Chirurg, 1935, 7
177

Peripheral Nerves

Neurogenic sarcoma T RYAN and A R CAMERO Ann
Surg, 1935, 101 1455.

Neurosarcoma of the median nerve T J BIGGS Med
J. Australia, 1935, 1 687

Sympathetic Nerves

Removal of the stellate ganglion in angina pectoris, an
operative case J DVIŠ Cas lck. česk, 1934, p 1400

Clinical contributions to the surgery of the sympathetic
nervous system VIII Surgery of the intestinal nerves
G PIERI Arch ital di chir, 1935, 39 541 [328]

SURGERY OF THE THORAX

Chest Wall and Breast

Myxomatous tumors of the breast L SANTA ANN
Ital d chir 1935 24 85 [330]

The prognosis of carcinoma of the breast with particular reference to the clinical picture histology the degree of maturity and the malignograms W STRIMENS Arch f klin Chir 1935 181 509

Rapidly disseminating cancers of the breast J MAX ROELL Rev de chir de Barcelona 1935 5 217 [330]

Metastases and surgery of the breast A MOST 59 Tag d deutsch Ges f Chir Berlin 1935

Trachea Lungs and Pleura

Studies on the lesser circulation H KILLIAN 59 Tag d deutsch Ges f Chir Berlin 1935

A transverse gunshot wound of both lungs and of the anterior mediastinum uncomplicated recovery A KUMMANT Zentralbl f Chir 1935, p 262

Subcutaneous emphysema as a complication of a foreign body in a bronchus L H CLEFF Ann Otol Rhinol & Laryngol 1935 44 364

The bronchiectatic emphysema of adults. II H CHERRY Am J Roentgenol 1935 33 774

The situation of the pleural exudate in obstructive atelectasis of the lung N WESTERMARK Acta radiol 1935 16 345 [330]

Chronic bronchial stenosis L ELOESSER Internat Clin 1935 2 191

The re-expanded lung P DUPAUL Am J Roentgenol 1935 33 781

Lobar pneumonia treated by artificial pneumothorax C HARVEY and S MEARES Royal Prince Alfred Hosp Year Book 1934 p 193

The veiled air bubble in hydropneumothorax E KOROL and H A SCOTT Am J Roentgenol 1935 33 777

The value of roentgen examination in the surgical treatment of pulmonary tuberculosis S ZANETTI Radiol med 1935 22 425 [330]

Chest immobilization in pulmonary tuberculosis F M FOOTE and J W SPIES J Thoracic Surg 1935 4 497

On the surgical treatment of pulmonary tuberculosis J HOLST C SEMA and J IRIMIAN DANL Acta chirurg Scand 1935 76 Supp 37 1 [331]

A study of mediastinal hernias occurring during artificial pneumothorax ALIX Y ALIX and SAN MARTIN Prog de la clin Madrid 1935 23 307

Pleural exeresis in conjunction with artificial pneumothorax therapy W C POLLOCK and J H FORBES J Thoracic Surg 1935 4 500

Multiple intercostal neurectomy for pulmonary tuberculosis J W STRIEDER and J ALEXANDER J Thoracic Surg 1935 4 473 [332]

Thoracoplasty and contralateral artificial pneumothorax W C POLLOCK J Thoracic Surg 1935 4 502 [333]

Thoracoplasty with extrafascial apicolysis C SEMA Acta chirurg Scand 1935 76 Supp 37 11

A study of patients with obliterated pulmonary cavities R HERAS Medicina 1935 6 414

The treatment of bronchopulmonary suppuration S VIZQUEZ Medicina, Madrid 1935 6 69

The diagnosis and treatment of lung abscess C H FITTS Med J Australia 1935 1 701

Abscess of the lung R C JEWESBURY Proc Roy Soc Med Lond 1935 28 1063

Bronchiectasis L FLETCHER J Thoracic Surg 1935 4 469

Complex cases of bronchial dilatation A EPERY Rev méd de la Suisse Rom 1935 p 40 [333]

A right sided juxtamedia tinal triangular basilar shadow with bronchiectasis in a young girl with tuberculous sputum P JACOB Bull et mém. Soc méd d hóp de Par 1935 51 751

A case of recurrent cylindrical bronchiectasis of the bases successfully treated from both the clinical and radiological standpoint by alcoholization of both pleural nerves M CHIRAY and A MAUDRY Bull et mém. Soc. méd d hóp de Par 1935 51 834

Secondary aspergillosis (aspergillus niger) superimposed upon bronchiectasis G D CANNON J Thoracic Surg 1935 4 533

Congenital cysts of the lung J P SCOTT and A D WATZ Am J M Sc 1935 189 788

Hydatid cyst of the lung U GONZÁLEZ Medicina 1935 6 367

A case of suppurative hydatid cyst of the lung treated by pneumothorax and the polyvalent antiparasitic vaccine of Bruschetum J G CHOLIZ Clin. y lab 1935 0 401

The varied pathological basis for the symptomatology produced by tumors in the region of the pulmonary apex and upper mediastinum J BROWDER and J A STEELE Am J Cancer 1935 24 507

Non-cancerous epithelial tumor obstructing the bronchus of the upper lobe of the left lung J W MILLER Arch Otolaryngol 1935 21 703

Endofibrillation in bronchogenic carcinoma. P C SIMON Am J Cancer 1935 23 741

Cancer of the lung F C LEANDER Brit M J 1935 1 1320

Bronchopulmonary suppurations due to cancer of the lung O IANUSOVICH R C FERRARI and M M BREA Bol. inst. de clin quir Univ de Buenos Aires 1934 10 2 9 [334]

Primary bronchogenic carcinoma L E WOOD L B SEANE W W SUMMERVILLE and G M TICE J Kansas M Soc 1935 36 227

The relation of cell type to metastasis in bronchogenic carcinoma I C SAMSON Am J Cancer 1935 23 154

Experiments on resection of the lung G GALLORIA Folcin Rome 1935 41 sez chir 283 [334]

Methods of producing experimental pleural consolidation H LANDT O R HENDRICK and H M KOWS J Thoracic Surg 1935 4 536

The diagnosis and treatment of acute empyema W M TITTLE J Lancet 1935 55 377

Involvement of the sympathetic nerves as a complication of acute empyema F C HILL J Thoracic Surg 1935 4 539

Tuberculous empyema its pathogenesis and treatment. F E BONZO Semana méd 1935 42 1329

An operation for tuberculous empyema L ELOESSER Surg Gyner & Obst 1935 60 1090

A case of delayed metastatic sarcoma of the pleura illustrating the diagnostic value of artificial pneumothorax W BROWN H P NELSON and T FREDLEY Jr Am J Cancer 1935 24 334

Heart and Pericardium

Suture of a stab wound of the heart G BEVER and C G SERVEY J Am M Ass 1935 104 1919

Simple and complicated pneumopericardium J LÉVY and R. CATOR J. de méd de Bordeaux, 1935, 112 373
Suppurative pericarditis G H BUNCH Am J Surg, 1935, 28 613 [334]

Esophagus and Mediastinum

Congenital anomalies of the alimentary tract, with special reference to the congenitally short esophagus W F MANGES and L H CLERF Am J Roentgenol, 1935, 33 657 [335]

Diverticula of the esophagus G HOFER. Festschr Ver Arzt Steiermark, 1933, p 46

Operation for diverticulum of the esophagus D METHENY Northwest Med, 1935, 34 210

A case of diverticulum of the esophagus, one-stage resection, recovery LUQUET Bull et mcm Soc d chirurgiens de Par, 1935, 27 248

Unusual cases of cicatricial stricture of the esophagus H L KEARNEY Ann Otol, Rhinol & Laryngol, 1935, 44 527

Impermeable cicatricial stricture of the esophagus treated by a modification of the Iglaue technique H J MOERSCH Ann Otol, Rhinol & Laryngol, 1935, 44 497

Spontaneous pneumothorax coincident with esophagus copy a report of two cases G G CARROLL Arch Otolaryngol 1935, 21 515 [335]

Peptic esophagitis HAMPERL Zentralbl f Path, 1934, 60 208, 226

Primary melanotic sarcoma of the esophagus T C JALESKI and P V. WALDO. Am J. Cancer, 1935, 24 340
Total plastic reconstruction of the esophagus G EGIDI Polichin, Rome, 1935, 42 sez prat 1287

Nerve tumors of the mediastinum T CALZOLARI Ann ital di chir, 1935, 14 15 [335]

Reticulosarcoma of the mediastinum P VERRYKEN Rev belge d sc méd, 1935, 7-234

A new surgical approach to the mediastinum through the pyriform sinus S E ROBERTS Ann Otol, Rhinol & Laryngol, 1935, 44 493

Traumatic intrathoracic rupture of the thoracic duct with chylothorax O R LILLIE and G W FOX Ann Surg, 1935, 101 1367

Primary malignant tumors of the thymus gland H R DECKER J Thoracic Surg, 1935, 4 445 [336]

Miscellaneous

The effect of diaphragmatic paralysis upon the efficiency of cough J FINE and A STARR J Thoracic Surg, 1935, 4 525

Congenital hernia of the diaphragm G BINI Ann. ital di chir, 1935, 14 75

Extensive diaphragmatic hernia following injury. A de VEER. Klin Wchnschr, 1934, 2 1859

Eversion of the diaphragm, with a report of two cases J A REED and D L BORDEN Arch Surg, 1935, 31 30 [336]

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

Two cases of spontaneous hematoma of the abdominal wall K E KAAREM Norsk Mag f Lægevidensk, 1935, 96 172

Postoperative or incisional hernias of the anterior and lateral abdominal walls A P HEINECK Illinois M. J., 1935, 67 529

Operative treatment of abdominal hernia with a free fascial transplant J G KNOFLACH and H VON BRUECKE Arch f Klin Chir, 1935, 182 41

The use of living sutures in the repair of abdominal hernias J C MASSON Minnesota Med, 1935, 18 365

Strips of fascia lata as suture material in the repair of the more difficult abdominal hernias J C MASSON Virginia M Month, 1935, 62 148

A description of my method of performing the Bassini operation G BAGGIO Polichin, Rome, 1935, 42 sez prat 1019

The mechanism, symptoms, and treatment of hernia into the descending mesocolon (left duodenal hernia), a plea for a change in nomenclature C L CALLANDER, G Y RUSK, and A NEMIR Surg, Gynec & Obst, 1935, 60 1052

Peritoneal drainage, resistance of the sinus tract to infection P SHAMBAUGH and R BOGGS Arch Surg, 1935, 30 1032

The pathogenesis of biliary peritonitis without perforation W T FOTHERINGHAM Bol y trab Soc. de cirug de Buenos Aires, 1935, 10 8

A case of primary enterococcal peritonitis A BRÉCHOT Bull et mcm Soc nat de chir, 1935, 61 658

Primary staphylococcal peritonitis in a child R S MITCHELL Lancet, 1935, 228 1329

Acute, generalized, primary peritonitis complicating scarlet fever L SABADINI Presse méd, Par, 1935, 43 605. [338]

The treatment of acute generalizing peritonitis L F BARNEY Internat. J Med & Surg, 1935, 48. 190.

Pseudomyxoma peritonei, report of a case presenting a bronchial fistula J D HANCOCK and H M WEETER Am J Surg, 1935, 28 731

Mesenteric cysts, a brief discussion and a report of three cases C S ROLLER. Surg, Gynec & Obst, 1935, 60 1128

Gastro-Intestinal Tract

Roentgenological observations of the automatism of the formation of folds of the mucous membrane in the digestive tract S KADRKA Acta radiol, 1935, 16 311 [338]

Leiomyoma of the gastro-intestinal tract, a report of two cases R D JONES, JR. Virginia M Month, 1935, 62 150

Cancer of the gastro-intestinal tract in young adults A C FORTNEY J.-Lancet, 1935, 55 381

Results obtained in the surgical treatment of gastrop-tosis J M RAMENTOL and M. CORACHÍN Rev. de cirug de Barcelona, 1935, 5. 240

An operatively cured case of volvulus of the stomach A RYDÉN Hymea, Stockholm, 1935, 97 257

Five hundred foreign bodies in the stomach R S KENNEDY Brit M J, 1935, 1 1262.

Cardiospasm W PFUNDT. Muenchen med. Wchnschr., 1935, 1 140

Pylorospasm only a symptom A A. SHAWKEY West Virginia M J, 1935, 31 264.

The demonstration of so-called congenital hypertrophy of the pylorus by roentgen examination J FRIMANN-DARL. Acta radiol, 1935, 16 333

Hemorrhagic gastritis DELOPE and GABRIELLE Presse méd., Par, 1935, 43: 820

Regenerative gastritis or carcinoma of the stomach H T. DEFLMAN Nederl Tijdschr. v. Geneesk, 1935, p 5016

- Ulcer in the experimental starving stomach N A BOGORAS Arch f klin Chir 1935 181 554
- Peptic ulcer of the stomach and duodenum, and diabetes A J LESSER Arch f klin Chir 1935 182 143
- The diagnosis of perforated peptic ulcer H A SINGER Internal Clin 1935 2 55
- Uremia as the cause of death in massive hemorrhage from peptic ulcer T CHRISTIANSEN Acta med Scand 1935 85 333 [339]
- Phytobezoars with gastric ulcer E T CROSSAN Ann Surg 1935 101 1451
- The association of polycythemia vera and peptic ulcer D L WILBUR and H C OCHSNER Ann Int Med 1935 8 1667
- Combined and separate effects of bile pancreatic secretion and trauma in experimental peptic ulcer A M GRAVES Arch Surg 1935 30 833
- The history of the development of surgery for peptic ulcer E S Judd Minnesota Med 1935 18 351
- The surgical aspects of bleeding gastric and duodenal ulcer J J WESTERMANN Ann Surg 1935 101 1371
- Late results of the operative treatment of non perforated gastroduodenal ulcer HARM Zentralbl f Chir 1935 p 541
- The cause of recurrence of gastroduodenal ulcer even after extensive resection FRIEDEMANN Zentralbl f Chir 1935 p 541
- The roentgen diagnosis of disease following posterior gastro enterostomy for gastroduodenal ulcer V SVAB Šborník 1935 37 181
- Corrective operations on the stomach F H JAEGER 59 Tag d deutsch Ges f Chir Berlin 1935
- Unusual findings and complications in gastro intestinal operations O MAIER Deutsche Ztschr f Chir 1935 244 652
- Anterior gastro enterostomy by the short loop method C E REFS Surg Gynec & Obst 1935 60 1125
- Vicious circle following gastro-enterostomy R C FERRARI Semana méd 1935 42 1342
- Postpyloral gastrotomy gastrocutaneous fistula operation recovery A F LANDFVAR Bol y trab Soc de cirug de Buenos Aires 1935 19 173
- An aspirator for emptying the stomach during operations H FINSTERER Zentralbl f Chir 1935 p 825
- The diagnosis of gastric malignancy J T STRAWN J Iowa State M Soc 1935 25 399
- Some phases of the roentgenological diagnosis of gastric cancer B R KIRKLIN Radiology 1935 24 672 [339]
- Clinical types and treatment of perforated gastric carcinoma N MILJANIĆ Srpski Arch Lekari 1935 37 3
- Operability of carcinoma of the stomach V C HUNT Ann Surg 1935 101 1200 [341]
- Complete removal of the stomach because of cancer with subsequent studies of the resorptive powers of the bowel P BULL and J STANV. Norsk Mag f Læv evi dansk 1935 96 165
- Sarcoma of the stomach report of a case E N COLLINS Cleveland Clin Quarterly 1935 2 59
- Penetration of moist heat applied to the abdomen and its effect on intestinal movements H E CARLSON and T G ORR Arch Surg 1935 30 1036
- A case of malrotation of midgut loop with superimposed volvulus P L HIRSCHFELD Med J Australia 1935 1 716
- Subcutaneous prolapse of the bowel of traumatic origin. P ROSTOK Zentralbl f Chir 1935 p 971
- Intestinal obstruction F CHRISTOPHER Illinois M J 1935 67 515
- Some recent studies on intestinal obstruction C H KELLAWAY Australian & New Zealand J Surg 1935 4 384
- Obstruction due to congenital absence of a portion of the mesentery H O LETHBRIDGE Royal Prace Alfred Hosp Year Book 1934 p 162
- Retrograde intestinal obstruction due to intussusception with Meckel's diverticulum R CAMINITI Polichin Rome 1935 42 sez Ibr 261
- A study of intestinal invagination based on 234 cases from 12 hospitals in Finland R GOLICHSEN Acta chirurg Scand 1935 76 Supp 35 193; Helsingfors Mercators tryckeri aktiebölag [342]
- Changes occurring in the spleen in experimental intestinal obstruction. G LUCCHESI Clin chir 1935 11 241 [342]
- The effect of iodine on the basal metabolism in obstruction of the bowel. J GLATZEL Wien med Wchnschr 1935 1 397
- Ischemic stenosis of the bowel H VON BRUECKE Arch f klin Chir 1935 182 95
- The prognosis of diverticulitis F G SELSINGER Lancet 1935 228 1458
- Bowel distention L P GAMBIE Northwest Med 1935 34 212
- Perforation of the bowel due to swallowed chicken bone M MARYAS Zentralbl f Chir 1935 p 726
- Peritonitis due to perforation of a tuberculous ulcer of the intestine P MARCONI Polichin Rome 1935 42 sez prat 937
- Resection of the intestine through the femoral opening J A VISCONTI J Med Soc New Jersey 1935 32 355
- Electrosurgical aseptic intestinal anastomosis R P WADSWORTH and V CARABBA Surg Gynec & Obst. 1935 60 1082
- A successful case of septuple bowel resection and set tiple anastomosis with an account of some personal multiple and complicated intestinal resections. G GORNOV TAYLOR. Australian & New Zealand J Surg 1935 4 345 [342]
- A clinical survey of twenty one cases of intussusception G G MILLER and E W WORKMAN Canadian M Ass J 1935 32 660
- Paralytic ileus. A OCHSNER Schweiz med Wchnschr 1935 1 93
- The treatment of mechanical and paralytic ileus W H CLARK Internat J Med & Surg 1935 43 153
- Carcinoma of the small intestine F D ACKMAN Canadian M Ass J 1935 32 634
- Deformity of the duodenum caused by ptosis of the right kidney M BRETON Bull et mfm Soc nat de chir 1935 61 679
- A study of diverticula of the duodenum DE ACHERA ANDRO Prog de la clin Madrid 1935 23 350
- A case of diverticulum of the duodenum J LANOS Bull et mfm Soc d chirurgiens de Par 1935 27 244
- Jaudice produced by a diverticulum of the duodenum W M NICHOLSON Bull Johns Hopkins Hosp Balt 1935 56 305
- The pathological position of the duodenum and the duodenojejunal flexure and their clinical significance F MANDL Wien med Wchnschr 1935 1 289
- Inflammation of the descending portion of the duodenum M L SUSSMAN Radiology 1935 24 691 [343]
- Exclusion of a duodenal ulcer by ligation of the duodenum with silk by the method of Gulek II Fistula due to a foreign body NOWOTNY Zentralbl f Chir 1935 p 799
- Perforating jejunal ulcer with spontaneous jejunoileal fistula Report of a case A S LOBINGER West J Surg Obst & Gynec 1935 43 305
- Ulcerative stenosing inflammation of the lower ileum. O KAPPEL Deutsche Ztschr f Chir 1934 243 676

The treatment of incarcerated papillary tone by the use of ether B O PRIBRAM Schweiz med Wchnsch 1935 1 83

Cholecystographic diagnosis of papillomas and tumors of the gall bladder C MOORE Am J Roentgenol 1935 33 630 [345]

Stricture of the common bile duct K H AYNESWORTH Am J Surg, 1935, 28 562

The technique of operation on the common bile duct. A W ALLEN and R H WALLACE Am J Surg 1935 28 533

Secondary operations on the common bile duct. R H MILLER and M K BARTLETT New England J Med 1935 212 1133

The pancreas and diastase H J DOHMEN Deutsche Ztschr f Chir 1935 244 60

Foreign body abscess of the pancreas R S BALOWEN J Am M Ass 1935 174 1900

The recognition of subcutaneous traumatic injury and necrosis of the pancreas W ROYKE Zentralbl f Chir 1935 p 992

Acute pancreatitis F F HENDERSON and F S A. KING Arch Surg, 1935 30 1040 [348]

Sequelae to hemorrhagic pancreatitis the value of drainage of the apparently normal biliary tracts H EER Bull. et mém Soc nat de chir 1935 61 686

The surgical treatment of chronic pancreatitis G DE TARNOWSKY and P J SARMA Ann Surg 1935 101 1342 [346]

Serum diastase during experimental pancreatic necrosis J KIRALY Orvosi hetil 1935 p 124

Transduodenal anastomosis from pancreatic cysts. F KESCHNER Zentralbl f Chir 1935, p 1080

Adenoma of islet cells with hyperinsulinism A O WAMPFE and V K FRANTZ Ann Surg 1935 101 100 [346]

The surgery of acute pancreatic diseases BERNHARD Zentralbl f Chir 1935 p 532 [347]

Subtotal pancreatectomy for hyperinsulinism J M McCAIG Ann Surg 1935 101 1336

Spontaneous rupture of a normal spleen R H YOUNG Ann Surg 1935 101 1339

Rupture of the spleen in two stages. T F SCHMID Zentralbl f Chir, 1935 p 83

Splenomegaly with torsion of the pedicle J R D BRANCH Chinese M J 1935 40 43

Aneurism of the splenic artery with fatal hemorrhage G L LEFEVRE and F M PETTIS J Michigan State M Soc 1935 34 33

A case of isolated stenosis of the splenic vein cured by splenectomy W BEHR. Ztschr f Kreislauforsch 1935 20 923

A case of fatal hemorrhage from esophageal varices in fibro-adenoma of the spleen in a young child. O RATICH Zentralbl f Chir, 1935 p 923

The nature of post splenectomy anemia R GOTTRE Canadian M Ass J 1935 32 642

Splenectomy in a case of splenic anemia M CASASERO Policlin Rome 1935 42 sez chir 373

Hemolytic jaundice G V LEWIS South M J 1935 25 521

Miscellaneous

Abdominal pain in children A R SHORT Brit M J 1935 1 1157 [347]

The acute abdomen J H WOOLSEY West J Surg Obst & Gynec 1935, 43 322

Laparoscopy H KATZ. Ztschr f Krankenhauswesen 1935 5 97

Uncommon unusual conditions of the lower right quadrant D P MacGILL Internat J Med & Surg 1935 43 190

Coronary occlusion simulating an acute abdominal emergency J M T L VEV JR and C F MORRIS Am J Surg 1935 28 629

Right paraduodenal hernia R C BRYAN Am J Surg 1935 23 703

Abdominal purpura the appendicular type in a hemophilic C MASI Semana med 1935 41 1445

The treatment of abdominal abscesses and fistula with apiration drainage and hyperemia M TIERZ. Deutsche Ztschr f Chir 1935 244 694

A case of retroperitoneal fibroma R SMITH and E L ARMSTRONG West J Surg Obst & Gynec 1935 43 312

GYNECOLOGY

Uterus

Conservation of the uterus in the operative treatment of bilateral adnexal dyscrasia H BEUOL Rev de chir Par 1935 34 416

Endo-uterine photography H UZLA Rev de chir Hospital Juarez Mex 1935 p 309

The intramural innervation of the uterus A R ANDRÉS Arch Fac de med de Zaragoza 1934-35, 3 115 [350]

The reaction of the colon to orsithine A test for the functional condition of the uterus H WINKLER Monatsschr f Geburtsh u Gynaek 1935 99 152

A modification of the Baldy Webster operation for retroplacement of the uterus using a faecal suture etc. F J BRUCKNER Internat J Med & Surg, 1935 48 20,

A new operation for prolapse H KOTTER Magv Nőgyógy 1935 4 4

The late surgical treatment of uterine inversion with a report of three cases. J B JOINTON J Med Cincinnati 1935 16 183

Rupture of the uterus H A RILLER Med J Austria 1935, 1 312

Uteric hemorrhages without uterine lesions hemorrhages of hematogenic origin hematogenic syndromes.

P E WEIL and P LAHWARE Rev franc de gynéc et d'obst 1935 4 415 [350]

Benign uterine hemorrhage with special consideration of radiation therapy H SCHWITZ Am J Roentgenol 1935 33 819

The use of vital staining and wet films in the diagnosis of lesions of the cervix P K ROWES and N R BARRETT Surg Gynec & Obst 1935 60 1072

The ba is for and end results of intravaginal insulin treatment of erosions of the cervix L KLOTZ Med Klin 1935 1 44

Diathermic coagulation in cervicitis R OLIPHANTES JR Rev de chir Hospital Juarez Mex 1935 351 [351]

Tuberculosis of the uterine cervix J MORILLO Ztschr f Geburtsh u Gynaek 1935 110 100 [351]

Endometrial studies G S McLELLAN, D PHILLIPS and J C BURCH Endocrinology 1935 10 321

A contribution on polyposis H H IZERA Clin y lab 1935 20 416

The hormonal origin of uterine fibroids a hypothesis J T WITHERSPOON Am J Cancer 1935 24 402

Prolapse of a uterine fibroma complicated by torsion and gangrene H Dac Di Bull Soc d'obst et de gynéc de Par, 1935, 24 257

- Malignant adenoma of the cervical canal G TRAINA
RAO Riv Ital di ginec, 1935, 18 38 [351]
Can we prevent cancer of the cervix? W. E. DARNALL
Med Rec, New York, 1935, 111 520
The prevention of uterine cancer H H SCHLINK and
C L CHAPMAN Royal Prince Alfred Hosp Year Book,
1934, p 148
Studies and a consideration of carcinoma of the cervix
H SCHRIDDE and H BERNING Muenchen med Wchnschr,
1935, 1 166
Cancer of the cervix uteri in nulliparous women A report
of fifty-three cases P TOMPKINS Am J Cancer,
1935, 24 397
Cancer of the body of the uterus following irradiation
for metrorrhagia R FOURNIER Bull Soc d'obst et de
gynec de Par, 1935, 24 309
Cancer of the cervix following subtotal hysterectomy.
P SÉJOURNET. Bull Soc d'obst et de gynec de Par,
1935, 24 278 [352]
The proper method of treating uterine cancer E D
PLASS J Iowa State M Soc, 1935, 25 203
Cancer of the cervix and its treatment I PAPIN J de
méd de Bordeaux, 1935, 112 343
Radiation therapy in cancer of the cervix W P HEAL
Canadian M Ass J, 1935, 32 647
Radiotherapy of cancer of the cervix uteri MACKENZIE
New Zealand M J, 1935, 34 171
Colpoplastic operation in carcinoma of the cervix A new
surgical procedure for improving the Wertheim operation
Zentralbl f Gynaek, 1935, p 694
Cartilaginous tissue in uterine curettage material E von
GIERKE Zentralbl f Path, 1935, 62 145
Hysterectomy E W MITCHELL Canadian M Ass J,
1935, 32 665
Extrapertoneal abdominal hysterectomy E J PATOM-
MEQUE Rev de cirug, Hospital Jaurez, Mex, 1935,
p 329
Total versus subtotal abdominal hysterectomy in benign
uterine disease E H RICHARDSON Am J Surg, 1935,
28 588 [352]

Adnexal and Periuterine Conditions

- Congenital deformities of the round ligament of the
uterus W NOETZEL Zentralbl f Chir, 1935, p 20
The behavior and the structure of the round ligament
in changes of the position of the uterus and in cases of
uterine fibromyoma G MORPA Ginecologia, 1935, 1 206
[352]
Broad-ligament cyst, an old but effective treatment
H A DUNCAN Med Rec, New York, 1935, 141 529
An anatomical study of the fallopian tube with regard to
the presence of muscle sphincters SORIA Arch di ostet.
e ginec, 1935, 42 269 [353]
Traumatic or spontaneous rupture of the fallopian tubes
in pyosalpinx M L ESNAURRIZAR Rev de cirug,
Hospital Jaurez, Mex, 1935, p 299
A pathological and clinical study of hematosalpinx
C CASU Clin ostet, 1935, 37 271
Tubal endometriosis simulating ectopic pregnancy. J I
KUSHNER Am J Obst & Gynec, 1935, 29 884
The ovarian cycle and the carbohydrate metabolism
II The course of glycaemic reaction following the adminis-
tration of dextrose in the normal cycle J BLOECH and A
BERGEL Wien Arch f innere Med, 1935, 26 233
The ovarian cycle and the carbohydrate metabolism
III The galactose tolerance J BLOECH and A BERGEL
Wien Arch f innere Med, 1935, 26 267
The effect of prolactin on the human ovary A WESTMAN
Zentralbl f Gynaek, 1935, p 1090

- Conservation of the ovary in hysterectomy A G
SALAMAN Rev. de cirug, Hospital Jaurez, Mex, 1935,
p 251 [353]
Therapeutics with ovarian hormones. C KAUFMANN
J Obst & Gynec Brit Emp, 1935, 42 400
Abscess of the ovary P. DETORD. Bull Soc d'obst et
de gynec de Par, 1935, 24 268
Statistics on ovarian tumors L GÉRY and J. ADRIAN
Bull Soc. d'obst et de gynec de Par, 1935, 24 310
Changes in the histological diagnoses and their clinical
significance in cases of ovarian tumors, in past years
Z STATHMAYR Orvostudós, 1935, 25 99
Total urinary retention due to ovarian cystoma L
HENCZ Magyar Nőgyógy, 1935, 4 26
Medullary fibers, medullary cysts, and papilloma of the
ovary R. JOACHIMOVITS Arch f Gynaek, 1935, 159 1
Dysgerminoma of the ovary H O KLINKE Arch f.
Gynaek, 1935, 159 98
Seven new cases of dysgerminoma ovarii, one of which
contained small follicular formations W REIFERSCHIED
Ztschr f Geburtsh u Gynaek, 1935, 110 273
Report of a case of luteoma, with a review of the litera-
ture S H WILKS and S A ROMANO Am J. Obst &
Gynec, 1935, 29 845
Ovarian thyroid R L SANDERS Am J Surg, 1935,
28 831
Ovarian metastases of epitheliomas of the digestive
tract, Krukenberg tumors R CROUSSE and A. DUPONT
Bruxelles-méd, 1935, 15 902, 931
Experimental study on irradiation of the ovaries in rats
E FELS Semana méd, 1935, 42 1453

External Genitalia

- Uterovaginal aplasia, artificial vagina, operation by the
method of Baldwin A J. RISOLLA Bol Soc de obst y
ginec de Buenos Aires, 1935, 14 31
The effect of theelin on the human vaginal mucosa
R M LEWIS Am J Obst & Gynec, 1935, 29 806
The question of leucorrhoea, syphilitic and protozoan
changes in the vagina E HERS Klin Wchnschr, 1935,
1 240
Gonococcal vaginitis in the adult A J KING and W N
MASCALL Lancet, 1935, 228 1492 [353]
The pathology and treatment of rectovaginal endo-
metriosis J J CHADENIUS Arb path Inst. Helsingfors,
1935, 8 153
Imperforate hymen with anomalous anatomical union
and position L DROSIN Med Rec, New York, 1935,
141 530
Two cases of atresia of the hymen CREMNITZER and
L'HERMIER Bull Soc. d'obst et de gynec de Par, 1935,
24 306
Supernumerary mammary-gland tissue on the labia
minora W F MENGERT Am J Obst & Gynec, 1935,
29 891
A case of tuberculous infection of the Bartholinian gland
A BASSLER Am J Obst & Gynec, 1935, 29 885

Miscellaneous

- Mechanical observation in gynecology M L ESNAUR-
RIZAR Rev de cirug, Hospital Jaurez, Mex, 1935, p 261
Studies on menstruation, ovulation, development, and
pathology of the female genitalia in man and monkey.
II The fallopian tube and ovary R JOACHIMOVITS Biol
generalis, Wien, 11 281
Ovulation and menstruation, the humoral theory of
Araya P BORRAS Bull Soc d'obst et de gynec de Par,
1935, 24 270

Experiments with theelin and galactin on the growth and function of the mammary glands of the monkey F ALLEN W U GARLICK and A W DODGE *Endocrinology* 1935 19 30 [354]

The menarche in Norway and its relation to climate B SÆVIK *Arch f Gynaek* 1935 159 22

Physiology anomalies and hormonal treatment in the menstrual cycle S STARRA *Orta kışe* 1935 23 115

The role of estrin and progesterin in experimental menstruation F T FLEISCH P F SURRIN and M C SNIESSEYAK *Am J Obst & Gynec* 1935 29 787 [354]

The treatment of amenorrhea with large doses of estrogenic hormone R KILBROOK L WILSON and M A CASSIDY *Am J Obst & Gynec* 1935 20 1 [354]

Membranous dysmenorrhea A GUIMARAES FELHO *Rev Obst e Ginec de São Paulo* 1935 1 29 [354]

Observations on the treatment of dysmenorrhea with the placental extract Emmenin M C WARSON *Canadian M Ass J* 1935 32 609 [355]

Adrenaline during the menstrual period C DE LISA *Arch Obstet e Ginec* 1935 42 1

Reducing substances in the blood of climacteric patients H DUFFEL *Arch f Gynaek* 1935 159 41

Endocrinology in relation to gynecology K T MARTENS *Royal Prince Alfred Hosp Year Book* 1934 7 179

The diagnosis and treatment of congenital disturbances due to the endocrine gland W BERTHEM *Med Klin* 1935 1 255 266 303

The preservation and restoration of important genital functions in gynecology: retrospective and prospective H FUCHS *Med Welt* 1935 3 124

The effect of resection of guinea pig ovaries on the estrus cycle and fertility K KROENIG *Nachr Ges Wiss Goettingen Math physik Kl* 1934 1 107

A case of complete mucinous pseudonephroblastoma A ASLIM *Zentralbl f Gynaek* 1935 3 601

A note on six pelvises of women of the Eleventh Dynasty in Egypt D L DICKIN *J Obst & Gynec Brit Imp* 1935 42 499

The relationship between epithelial and connective tissue in the female genitalia R DE JONSSON DE JONG *Schweiz med Wchnsch* 1935 1 19

The pelvic fascia A P SLAPS *Am J Obst & Gynec* 1935 20 834

Retrolid diverticulosis in the female C STAJANO and J J CROTONGENT *Arch uruguayas de med cirug y especial* 1935 6 401

A case of ureteric in the female L P ROTTARO *Arch uruguayas de med cirug y especial* 1935 6 307

Proliferative lesions of the female urethra J W E WALTERS and K M WILLOUGHBY *South M J* 1935 8 151

Diverticula of the female urethra M S S LARLAM *Australian & New Zealand J Surg* 1935 4 399

The periodicity of genital hemorrhage and its causes H K VALLS *Med Klin* 1935 7 3 1 410

Genital hemorrhages with a local cause I ULRICH *Rev franc de gynec et obst* 1935 30 355 [355]

The treatment of pelvic infections A C IACAR *J Iowa State M Soc* 1935 25 97

The gonodysgenesis in testis and gynecology M FARATI *J Ital di gynec* 1935 18 65 [356]

The diagnosis of gonorrhea in the female with particular relation to the complement fixation test J WANDER *Deutsche med Wchnsch* 1935 1 101 343

The value of the history and physical examination and of the Borden-Gengouschen 1 in the recognition of latent gonorrhea in woman A P KITSCHULEWSKY *Monatschr f Geburt u Gynaek* 1935 99 71

A case of capillary hemangioma in the pelvis connective tissue S PAPPAS and E JEST *Zentralbl f Gynaec* 1935 3 227

Hormone therapy in gynecology L RAMIREZ *Rev de cirug Hospital Juarez Mex* 1935 3 237

The basis for the modern treatment with female sex hormones C CLARKBERG *Med Welt* 1935 3 367 449

Changes in the endometrium after female sex endocrine therapy: a consideration of the effect of Antennin S in human subjects J ROCK *Endocrinology* 1935 29 209

The value of prostigmin in obstetrics and gynecology P SPORN *Gynecologia* 1935 1 455 [356]

Diatheisy in the treatment of pelvic pathology N F TITUS *Am J Obst & Gynec* 1935 29 833

Short wave therapy in gynecology K PROCTOR R MOSE *Arch and J ULSFELD Presse med Par* 1935 43 1001

The roentgen dosage in gynecology J BREDET *Strahlentherapie* 1935 32 664

Electrocoagulation in gynecology F LIQV *Men* 1935 19 813

When are operations necessary in gynecology and when can they be dispensed with? J FLEISCH *Orta kışe* 1935 23 459

Results of pelvic sympathectomy J A ALARZ *Rev de cirug Hospital Juarez Mex* 1935 3 261

Thrombosis and embolism in the University Gynecological Clinic at Halle J JUDWANS *Monatsschr f Geburt u Gynaek* 1935 99 134

The stent problem: A study of 250 cases W WEITZNER *New York State J M* 1935 35 615

The etiology and diagnosis of sterility in the female J CORREA *Rev mexicana de cirug ginec y gynec* 1935 3 277

The pathological sterility of woman. H BACHMARDT *1935 Berlin Dissertation*

The treatment of sterility in the female A M KOT *Medicina Madrid* 1935 6 115

The treatment of sterility in the female A C ACET *Medicina Madrid* 1935 6 298

The management of cases of apparent sterility B J DIERCKX *J Iowa Stat M Soc* 1935 25 304

The sterilization of women von STECKEL *Zentralbl f Gynaec* 1935 3 590

OBSTETRICS

Pregnancy and Its Complications

The optimum mother diet and regime L W WILLIAMS *Practitioner* 1935 1 4 7

Pregnancy following cesarean section J LANCAR *Rev de cirug Hospital Juarez Mex* 1935 3 315

Difficulties in the diagnosis of pregnancy complicated by fibroma KEEB and KATZMANN *Bull Soc d'obst et de gynec de Par* 1935 4 302

The early biological diagnosis of pregnancy L S LISMONDI and L S ACERVO *Rev mexicana de med* 1935 42 1104

Critical studies of pregnancy reactions E FRIED *Monatsschr f Geburt u Gynaek* 1935 99 64

The Acheim London test with mature mice A C SARLOUS *Endocrinology* 1935 29 314

The autotransplantation of rabbit ovaries into the ear chamber of the eye for early diagnosis of pregnancy

- K I ABRAMOWICZ and W ZALESKI Zentralbl f Gynaek, 1935, p 634
- The value of the Aschheim-Zondek test for pregnancy in the diagnosis of extra-uterine pregnancy J GRANZOW Med Welt, 1935, p 528
- Ectopic pregnancies D M DAVIDOW J Michigan State M Soc, 1935, 34 376
- Extra-annual pregnancy M KOMLÓSSY Magyar Nőgyógy, 1935, 4 24
- Considerations regarding the clinical picture of extra-uterine pregnancy C ROBLES Rev de cirug, Hospital Juarez, Mex, 1935, 271 [358]
- Prolonged retention of the fetus from an extra-uterine pregnancy T H ASCHMAN and F C HELWIG Am J Obst & Gynec, 1935, 29 893
- A case of extra-uterine pregnancy occurring in a fallopian tube remaining after operation H WÓJCICKI Ginek polska, 1935, 14 55
- Double tubal pregnancy F REYES Rev de cirug, Hospital Juarez, Mex, 1935, p 245
- Recurrent tubal gravidity on the same side J DEUTSCH and J CLAHR Am J Obst & Gynec, 1935, 29 889
- Several cases of double uterus with pregnancy FRUHINSOLZ, LOUYOT, and LECLERC Bull Soc d'obst et de gynec de Par, 1935, 24 296
- A study of the collagen of the placenta B TENNEY, JR Am J Obst & Gynec, 1935, 29 819
- Uteroplacental apoplexy L PORTES Gynec et obst, 1935, 31 665 [358]
- A new contribution to the clinical study of placental hemorrhages M RIVIÈRE Gynec et obst, 1935, 31 697 [359]
- A rare clinical combination and histopathological picture of total placenta previa A LA DELFA Clin ostet, 1935, 37 267
- Placenta previa complicating twin pregnancy M W. HAYS Am J Obst & Gynec, 1935, 29 895
- The treatment of placenta previa S M KLEIN Monatsschr f Geburtsh u Gynaek, 1935, 99 170
- Ablatio placentae H G STEELE West Virginia M J, 1935, 31 260
- Fetal cephalometry *in utero* and the determination of fetal maturity H THOMS Am J Obst & Gynec, 1935, 29 876
- The maximum gain in weight during normal pregnancy J L WONON Rev franç de gynec et d'obst, 1935, 30 239
- The elastic apparatus of the uterus during pregnancy G ROSSELLI Clin ostet, 1935, 37 257
- A roentgenological study of the topographic and functional changes in the esophagus and stomach during the late stages of pregnancy S ZOCCHI and E ROBECHI Gynecologia, 1935, 1 272 [359]
- A case of axial torsion of a full-term pregnant uterus R A REIS and A J CHALOUPKA J Am M Ass, 1935, 104 2080
- The medical treatment of premature rupture of the membranes and of weak pains by the method of HENKEL R WIPPERT Zentralbl f Gynaek, 1935, p 738
- The physiological increase of blood pressure before and during labor H OHLIGMACHER and E DOERR Zentralbl f Gynaek, 1935, p 1154
- Changes in the lipid content of the blood following the interruption of pregnancy with tuberculosis of the uterus and ovaries F GASPARRI Gynecologia, 1935, 1 365
- Lactojellification of the serum, a study of the serum from pregnant women and serum from the umbilical cord G LEGRAND Gynecologie, 1935, 34 239
- The activity of hair follicles with reference to pregnancy M TROTTER Surg, Gynec & Obst, 1935, 60 1092
- The growth of follicles and atresia of follicles during pregnancy K TIETZE and R WEGENER Zentralbl f Gynaek, 1935, p 1097
- The relation of Vitamin-B deficiency to metabolic disturbances occurring during pregnancy and lactation E M TARR and O MCNEILE Am J Obst & Gynec, 1935, 29 811
- Hemolysis during pregnancy T M CAFFARATTO and C PESCE Gynecologia, 1935, 1 380 [359]
- Anemia of pregnancy F R IRVING Am J Obst & Gynec, 1935, 29 850
- Progress in obstetrics, the anemias of pregnancy N J EASTMAN Internat Clin, 1935, 2 257
- The treatment of hyperemesis gravidarum with cortin W STEMMER Zentralbl f Gynaek, 1935, p 456
- Pyelitis gravidarum H KAMNIKER Wien klin Wchnschr, 1935, 1 229
- Cova's tender costolumbar point in pyelitis of pregnancy S ZOCCHI Gynecologia, 1935, 1 417 [360]
- The early diagnosis and treatment of pyelitis of pregnancy J W HARRIS Wisconsin M J, 1935, 34 379
- The allergic theory of the toxicosis of pregnancy B JRGOROW Zentralbl f Gynaek, 1935, p 465
- Studies of the ketone content of the blood in patients with pregnancy toxicoses A J M HOLMER Nederl Tijdschr v Verloskde, 1935, 38 1
- On the functional capacity of the liver in the toxemias of pregnancy, and their sequelæ, and on the obstetrical use of recent methods of testing hepatic function G VALLE Gynecologia, 1935, 1 435 [360]
- A case of eclampsia with new disturbances of the liver and kidney function G MACIEL Rev de cirug, Hospital Juarez, Mex, 1935, p 325
- The treatment of eclampsia M MORLINO Rev de cirug, Hospital Juarez, Mex, 1935, p 333
- The treatment of eclampsia W STROGANOFF Arch f Gynaek, 1934, 158 321
- Diagnostic problems in pregnancy and during labor M V CARCELLER Clin y lab, 1935, 20 426
- Tuberculosis and pregnancy D S BRACHMAN Am J Obst & Gynec, 1935, 29 880
- Epidemic dropsy in pregnancy M N SARKAR Calcutta M J, 1935, 29 539
- Paralytic disturbances of the brain during pregnancy and the question of pregnancy complicated by heart disease S KELEMEN Monatsschr f Geburtsh u Gynaek, 1935, 99 140
- The treatment of heart disease in pregnancy C BRAMWELL Brit M J, 1935, 1 1132
- Rupture of the normal spleen in pregnancy E C BURNETT and W H MCMEINLEY Brit M J, 1935, 1 1122
- Upper urinary-tract infections complicating pregnancy H F TRAUT and A KUDER Am J Obst & Gynec, 1935, 29 826
- Uterine scars at the end of pregnancy R FIKENTSCHER Ztschr f Geburtsh u Gynaek, 1935, 110 142
- A case of umbilical cord hematoma W NEUWEILER Zentralbl f Gynaek, 1935, p 450
- Dermoid cyst of the ovary in a pregnant woman A S NORIEGA Rev de cirug, Hospital Juarez, Mex, 1935, p 345
- Surgical emergencies during pregnancy W F SHALLENBERGER Am J Surg, 1935, 28 582
- An analysis of 1,772 abortions and miscarriages, with a consideration of treatment and prevention R E STEWART Am J Obst & Gynec, 1935, 29 872
- Foreign-body embolism, a rubber catheter in the heart in a case of criminal abortion J BLÚHA Zentralbl f Gynaek, 1935, p 746

An unruptured traumatic lesion of the bladder due to criminal abortion. Late diagnosis by cystoscopy. F. LAFRANCIT. *Chin. o. rec.* 1935 37 284

Perforation of the uterus due to attempted abortion myorrhaphy recovery. C. KRISTO. *Bull. Soc. d. obst. et de gynec. de Par.* 1935 24 273

A fatal hemoglobinuric syndrome in a case of abortion provoked by the intra uterine injection of a lead salt. J. HARTMANN. *Bull. Soc. d. obst. et de gynec. de Par.* 1935 24 291

A rare case of abortion with fatal outcome. C. LEONZING. *Beitr. z. gynecol. Med.* 1935 13 63

Labor and Its Complications

The management of normal labor. S. R. C. BREELEY. *Practitioner* 1935 134 703

The conduct of twin labor. C. HOLTERMANN. *Arch. f. Gynec.* 1935 159 41

What significance and what influence has the frequency of pain on the course of labor and the puerperium in febrile and non febrile labors? O. FETTER. 1914 Muenster: W. u. Duesseldorf

Home deliveries. M. F. SALT. *South M. J.* 1935 28 511

Failures in operative obstetrics in home practice and their treatment. C. HOLTERMANN. *Arch. f. Gynec.* 1934 158 223 [361]

Rupture of an umbilical vessel during labor. J. FRANT. *Zentralbl. f. Gynec.* 1935 p. 446

Rare mechanical birth obstacles. S. LIZMANN. *Wien. klin. Wchschr.* 1935 1 330

Birth trauma of the sacrocaudal joint in infantile m. IL. SCHWIMM and L. BAYER. *Zentralbl. f. Gynec.* 1935 p. 624

The treatment of obstetrical disproportion. R. C. BROWN. *Brit. M. J.* 1935 1 1251 [361]

Transverse presentation of the fetus with spontaneous evolution. A. I. WEISMAN. *Med. Rec. New York* 1935 141 522

A case of dystocia due to accidental shortening of the umbilical cord. C. MACIEL. *Rev. de cirug. Hospital. Juarez Mex.* 1935 p. 333

The mechanism and management of brow presentation. MORRIS. *Arch. Obstet. Gynec.* 1935 42 203 [361]

A consideration of cephalic presentation in the occiput anterior position at the level of the superior strait. R. KELLER. *Gyn. ologie* 1935 34 221 [362]

The use and abuse of forceps in midwifery. C. S. LAVER. ROBERTS. *Fract. n. rec.* 1935 134 741 [362]

Retractor obstetrical forceps. M. A. MOSES. *Am. J. Obst. & Gynec.* 1935 20 888

Vertex presentation re episiotomy and outlet forceps. C. I. GALLAGHER. *Illinois M. J.* 1935 67 526

Vaginal versus abdominal technique in major obstetrics. J. HUBBARD. *J. Med. Cincinnati* 1935 16 102

Bloody infarction of the uterus which was amputated because of premature separation of the placenta. I. C. ARTER. *Ztschr. f. Geburtsh. u. Gynec.* 1935 110 430

Cesarean section in modern obstetrics. T. WACZYK. *Pol. Gaz. lek.* 1935 pp. 83 77

When is a cesarean section indicated? P. A. D. VITERO. *Med. Rec. New York* 1935 141 521

Increased indications for cesarean section. Indications, primary results and the mortality of mother and child. M. BORJANOVIC. *Verhandl. d. 2. Kongr. jugoslav. chir. Ces.* 1934 2 203

Increased indications for cesarean section. The development and technique of modern cesarean section. The increase of our indications in unclear cases. Late results of

cesarean section. F. DURR. *Verhandl. d. 2. Kongr. jugoslav. chir. Ces.* 1934 2 220

The technique of cesarean section. L. LINE and RIVIERA. *Rev. de cirug., Ho. pital. Juarez Mex.* 1935 p. 303

Transverse cervical cesarean section. R. J. HEPFERNAN. *Am. J. Obst. & Gynec.* 1935 20 860

Extraputentoneal cervical cesarean section. J. LEON. *Bol. Soc. d. obst. y gynec. de Buenos Aires* 1935 14 10

Cesarean section for a prolapsed ovary cyst complicated by a second cyst at the point of its emergence through the pelvic diaphragm. R. KELLER. *Bull. Soc. d. obst. et de gynec. de Pa.* 1935 24 314

Rupture of the uterus following cervical cesarean section. G. WACY. *Obstet. 1935 p. 314*

A case of death from appendicitis following low cesarean section. A. GINCLINGER and I. MILLER. *Bull. Soc. d. obst. et de gynec. de Par.* 1935 24 304

Fatal peritonitis following cesarean section in a case of congenital atresia of the anus and communication of the vagina with the rectum. V. MCGEE. *Frankfurt. Ztschr. f. Path.* 1935 47 462

The operation of lortet. A new technique for temporary extensorization of the uterus. O. JERGENS. *Rev. med. chirurg. de patol. feminina* 1935 3 466

A new method for measuring the blood loss during the third stage of labor. J. B. LASTORE. *Am. J. Obst. & Gynec.* 1935 20 866

Manual detachment of the placenta and intra uterine palpation. L. KRISTENSEN. *Acta ob. et gynec. Scand.* 1935 15 165

Medicines for alleviating birth pains. J. J. ELLI. *Cirk. polska* 1935 15 833

Analgesia in obstetrics. A. P. VÉRTIZ. *Rev. de cirug. Hospital. Juarez Mex.* 1935 p. 350

Recent trends in obstetrical analgesia. C. E. HUNT. *Northwest Med.* 1935 34 193

Puerperium and Its Complications

The prevention of prolapse of the uterus and vaginal walls following childbirth. M. SALMOVICH and G. DEARNEY. *J. Obst. & Gynec. Brit. Emp.* 1935 42 446

Blood hoids in the puerperium. E. M. BORD. *Am. J. Obst. & Gynec.* 1935 20 707

The treatment of postpartum hemorrhage due to atony. P. SALAZAR. *J. Obst. & Gynec. Brit. Emp.* 1935 42 470

Puerperal fever. D. B. MCCARTHY. *Med. Rec. New York* 1935 141 515

Intermittent hysterochysis in puerperal fever. S. FRIELSON. *Rev. mexicana de cirug. gynec. y obstet.* 1935 3 204

Early puerperal infection apparently of tuberculous septicemia recovery. H. VERMELIN. *Bull. Soc. d. obst. et de gynec. de Par.* 1935 24 203

Puerperal sepsis with a bacteriological study at autopsy. L. HERBERT. *Lancet* 1935 p. 41

The treatment of puerperal sepsis. G. F. GIBBERN. *Practitioner* 1935 134 153

Some causes of puerperal mortality and methods of prophylaxis suggested for the treatment of puerperal sepsis and puerperal pyrexia. H. J. TOWNSEND. *J. Obst. & Gynec. Brit. Emp.* 1935 42 434

Supravaginal uterine amputation in puerperal sepsis. F. C. HITCHCOCK. *Zentralbl. f. Gynec.* 1935 p. 1045

Two interesting cases of puerperal pancreatitis. CALABRO. *CASTELLON and OLGA. Arch. de med. cirug. y especial.* 1935 10 271

Nine cases of myometritis in the puerperium. P. LANTUJOL. *Bull. Soc. d. obst. et de gynec. de Par.* 1935 24 275

Newborn

A mucus trap for tracheal insufflation in newborn infants modified for the administration of oxygen and carbon dioxide M BERLIND *Am J Obst & Gynec*, 1935, 29: 887

Spinal puncture in cerebral hemorrhage of the newborn A LEVINSON *J Am M. Ass.*, 1935, 104: 2243

Vomiting in the newborn, with special reference to duodenal atresia; a report of two cases T D WALKER, JR., W W FALKNER, and J S HORSLEY. *Virginia M Month*, 1935, 62: 141

Epidemic pemphigus of the newly born. W H. POOLE and C H WHITTLE *Lancet*, 1935, 228: 1323.

Causes of death in the newborn. C. J FISCHER *Wien klin Wchnschr.*, 1935, 1: 360

Miscellaneous

Care of the normal obstetrical patient O R THOMPSON *J Med Ass Georgia*, 1935, 24: 204

Obstetrics in Uganda SIF A COOK. *Practitioner*, 1935, 134: 748

The limits of obstetrics in the home. G. WINTER *Zentralbl. f Gynaek*, 1935, p 787.

Maternal mortality. E HOLLAND *Lancet*, 1935, 228: 973 [363]

The indications for, and the technique of, hypodermic injections of oxygen in obstetrics C MERLETTI. *Clin obstet*, 1935, 37: 290 [363]

A statistical determination of fertility based on approximately 500,000 births J. KISS *Zentralbl. f. Gynaek.*, 1935, p 735

Theoretical and practical consideration of the voluntary determination of sex P. H SCHUMACHER *Arch f. Gynaek*, 1934, 158: 393

Chorionepithelioma with a long latent period D. FEINER. *Am J Obst & Gynec*, 1935, 29: 840.

A new method permitting the early diagnosis of malignant chorionepithelioma after the evacuation of a mole A. BRINDEAU, H HINGLAIS, and M HINGLAIS. *Presse méd*, Par, 1935, 43: 1017 [364]

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

Changes in the secondary characteristics associated with tumors of the suprarenal cortex B PITROLFFY-SZABÓ *Arch f klin Chir*, 1935, 181: 548

Changes in the sugar content of the blood following unilateral and bilateral denervation of the suprarenal glands R BERNARDINI and D CALTABIANO *Ann ital di chir*, 1935, 14: 141 [365]

Congenital absence of the kidney J W S LAIDLEY *Royal Prince Alfred Hosp Year Book*, 1934, p 163

Operative indications in renal ptosis HEITZ-BOYER. *Bull et mém Soc nat de chir*, 1935, 61: 644

Our method of nephropexy for movable kidney A STANISHEV *Ber bulg chir Ges*, 1934, 1: 66

Pain in cases of dilated pelvis and ureter G R LIVERMORE *J Urol*, 1935, 33: 627

Muscular contusion of the kidney, the pathogenesis and treatment of kidney lesions F MELINA *Arch ital di urol*, 1935, 12: 521

A note on peroral pyelography H MORRIS *Brit J Radiol*, 1935, 8: 393

Experimental studies of hydronephrosis E C CRACIUN and D ZANNE *Ann d'anat path*, 1935, 12: 643 [365]

Congenital unilateral hydronephrosis R S ROSEDALE *Am J Dis Child*, 1935, 40: 1570

Congenital hydronephrosis due to an abnormal attachment of the renal fascia (of Gerota) V MAHADEVAN and T B MEYER. *Indian M Gaz*, 1935, 70: 321

The histological and functional process of repair of the kidney following temporary uronephrosis A. POZZAN *Arch ital di urol*, 1935, 12: 475 [365]

Pyclo-ureteroplasty for stricture—horseshoe kidney with stone P K SAUER *Ann Surg*, 1935, 101: 1441

A pathological and anatomical study of the kidneys in bichloride poisoning A GALT *Ztschr f urol Chir*, 1935, 40: 440

Ileus associated with transient renal insufficiency, a true enterorenal syndrome L G WAKETFIELD, C W MAYO, and J A BARGEY *J Am M. Ass.*, 1935, 104: 2235.

Nephralgia B N CHOLZOFF *Ztschr f urol Chir*, 1935, 41: 52

Renal lesions caused by the staphylococcus, with special reference to kidney carbuncle L BRADY *Internat Clin*, 1935, 2: 210

A case of renal tuberculosis A P GORRO *J d'urol méd et chir*, 1935, 39: 428

Tuberculosis of the kidney secondary to tuberculous adenopathy of the hilum of the kidney PAPIN, GORDIN, and BUSSEY *Arch. d mal d reins et d organes génito-urinaires*, 1935, 9: 197

Renal tuberculoma and pseudoneoplastic renal tuberculosis E FRANCESCHI *Chn chir*, 1935, 11: 215 [366]

Perinephric abscess M GOULART and N B BENCHIMOL *Rev brasil de cirurg*, 1935, 4: 147

Renal and ureteral calculi L D SMITH *Illinois M J*, 1935, 67: 512

The remarkable formation and chemical composition of renal calculi K HUTTER *Ztschr f urol Chir*, 1935, 41: 71

A case of unilateral partial polycystic kidney E PAPIN and F BUSSEY *J d'urol méd et chir*, 1935, 39: 335

A solitary cyst associated with tuberculosis of the kidney J F BALCH *J Urol*, 1935, 33: 526

Wilms' tumor A clinical and pathological study J T PRIESTLEY and A C BRODEPS *J Urol*, 1935, 33: 544 [366]

Papillary epithelioma of the renal pelvis W N TAYLOR *J Urol*, 1935, 33: 531 [367]

Roentgen diagnosis of papilloma of the kidney pelvis G JANSSON *Acta radiol*, 1935, 16: 354 [367]

A chromoscopic study of the kidney in surgery E BAZTERRICA *Rev méd-quirurg de patol femenina*, 1935, 3: 351

Forceps for use in demonstrating roentgenologically the presence of renal stones during operation SCHMUTTE *Zentralbl f Chir*, 1935, p 463

The effect of unilateral nephrectomy on the sugar metabolism L STRAUSS *Ztschr f urol Chir*, 1935, 41: 1

Two unsatisfactory nephrectomies STOECKEL *Ztschr f Geburtsh u Gynaek*, 1935, 110: 341

The effects of syntropan, enatin, bromsalizol, and eupaverine on the human ureter K SAMAAAN and M I EL ASREEGY *Brit J Urol*, 1935, 7: 116

Ureteral ectopia with a congenital hypoplastic pelvic kidney A J SPARKS *J Urol*, 1935, 33: 550

The diagnosis and treatment of ureteral calculi J. FRANÇOIS *J d'urol méd et chir*, 1935, 39: 219 [368]

A case of ureteric calculus of unusual shape A W FAWCETT. *Brit J. Urol*, 1935, 7: 161.

Some common infections of the urinary tract and their treatment J C SARGENT Wisconsin M J, 1935, 34: 395

A low calorie ketogenic diet for the treatment of chronic urinary tract infections R M NESBIT, C H McDONNELL, and G C ROURKE J Michigan State M Soc, 1935, 34: 347

Further studies on the use of the ketogenic diet for bacilluria E N COOK and W F BRAASCH J Urol, 1935, 33: 583

A new acid medication in the treatment of bacilluria. A M CRANCE and T W MALONEY J Urol, 1935, 33: 657

Paratyphoid and colon-bacillus infections of the urinary tract J LEVETZ J d'urol méd et chir, 1935, 39: 289

Genito-urinary tuberculosis G J THOMAS and T J KINSELLA Wisconsin M J, 1935, 34: 398

Skin test diagnosis of gonococcus infection B C CORBUS Illinois M J, 1935, 67: 521

A contribution to the study of enterorenal fistulas Massive tuberculosis of the kidney and the left renal space with the formation of a fistula into the colon and to the exterior A ROMANI Arch ital di urol, 1935, 12: 583

Ectopic bilharzias Experimental bilharzias and the hepatic stage of the bilharzial parasite in man A DIAMANTIS J d'urol méd et chir, 1935, 39: 308

The treatment of lymphogranuloma inguinale, with vaccine and anti-serum* J. T. TAMURA J. Med, Cincinnati, 1935, 16: 178

Intravenous antigen therapy in lymphogranulomatosis inguinale NAVARIO MARTIN and MARTINEZ TORRES Arch de med, cirug y especial, 1935, 16: 310.

The penetration of urinary stones H HAMMEL Ztschr f urol Chir., 1935, 41: 63

The medical management of urinary lithiasis C C HIGGINS Cleveland Clin Quarterly, 1935, 2: 44

Some landmarks in the surgery of stone E W. RICHES Brit J. Urol, 1935, 7: 140

Sarcoma of the urinary tract C E JELM. J. Urol, 1935, 33: 599

The basal metabolism in surgical diseases of the urinary tract. F RABBONI Arch ital di urol, 1935, 12: 532

Removal of the aorticorenal ganglion in surgery of the urinary tract O AMOROSI Arch ital di urol, 1935, 12: 568

Studies in fertility The effect of extracts of the anterior lobe of the hypophysis and Vitamin E on the sex activities in sterile males G VALLE and G. V SEGRE Ginecologia, 1935, 1: 404

The sterilization of man E GOHRBANDT Zentralbl f Chir, 1935, p 586

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc.

Dysostosis cleidocranialis S H LOVELL Royal Prince Alfred Hosp Year Book, 1934, p 184

The interpretation of the blood calcium in generalized osteopathies J LENSELME and C CHARLIN Lyon chir, 1935, 32: 257

The serum diagnosis and serum therapy in osteomyelitis H GROSS and E KOENIG Deutsche med Wchnschr, 1935, 1: 265

Marble-bone disease H WIDEGANS 59 Tag d deutsch Ges f Chir, Berlin, 1935

Skeletal lipid granulomatosis J FRASER Brit J Surg, 1935, 22: 800 [373]

Osteitis deformans of Paget and diabetes insipidus O RUMWERT Fortschr d Roentgen-strahlen, 1934, 40: 85

Rhizomononclorheostosis B P WIDMANN and W R STECHER Radiology, 1935, 24: 651 [373]

The hereditary nature of osteopetrosis H STIASNY Zentralbl f Chir, 1935, p 634 [374]

Tuberculosis of bone T KONSCHIEGG 1934 Berlin, Springer

Active measures in the treatment of bone tuberculosis S KORMANN and R TARLO Ztschr f orthop Chir, 1935, 62: 415

Acquired syphilis of the bones H BEITZKE 1934 Berlin, Springer

Studies on the histology and nature of osteitis fibrosa localisata S MUSTAKALLIO Arb path Inst Helsingfors, 1935, 8: 37

Generalized osteitis fibrosa with parathyroid adenoma K ROSS Australian & New Zealand J Surg, 1935, 4: 407

Fibrous osteody-trophy and epithelioma J. GOIANES Actas Soc de cirug de Madrid, 1934, 4: 33

Experimental osteody-trophia fibrosa and its significance in the etiology of von Recklinghausen's disease H HANKE 59 Tag d deutsch Ges f Chir, Berlin, 1935

Experimental bone tumors O SCHUERCH and L UHLINER 59 Tag d deutsch Ges f Chir, Berlin, 1935

Multiple myeloma and metastatic medullary bone tumors K HORSCH Beitr z klin. Chir, 1935, 161: 105

Bone tumors and irradiation L C KRESS and B T SIMPSON Canadian M Ass J, 1935, 32: 651

Chondrosarcoma B HALPERT and J B DAVIS Am J Cancer, 1935, 23: 784

Ewing's sarcoma H HELLNER 59 Tag. d deutsch Ges f Chir, Berlin, 1935

Present views on the traumatic occurrence of sarcoma in so-called fibrous osteitis L PICK Monatsschr f Unfallheilk, 1935, 42: 239

The pathology and treatment of joint sprain MILTNER, HU, and FANG Chinese M J, 1935, 40: 521

Static inflammation of the joints A SALL Wien klin. Wchnschr, 1935, 1: 76

The serum calcium in arthritis E F HARTUNG and C H GREENE J Lab & Clin. Med., 1935, 20: 929

A case of alcaptonurica arthrosis H BREITENFELDER Zentralbl f Chir, 1935, p 1038

Tuberculosis of the joints T KONSCHIEGG 1934 Berlin, Springer

Atypical muscle strain P BAUWENS and J K McCONNEL Lancet, 1935, 228: 1384

Myositis ossificans DOMRICH Zentralbl f Chir, 1935, p 817

Traumatic paralysis of the serratus anterior muscle M PATEL, R DESJACQUES, and M PLETTIER Lyon chir, 1935, 32: 260

Rupture of the long head of the biceps muscle J ONTRCIL Cas lek česk, 1935, p 161.

A contribution to the study of Volkmann's ischemic contracture J D'HARCOURT and M D'HARCOURT Medicina, Madrid, 1935, 6: 237

Tuberculosis of the wrist A. STINDLER. Rev de orthop. y traumatol, 1935, 4: 223 [375]

An atlas of normal ossification of the human hand F SIEBERT 1935 Leipzig, Thieme

Osteomyelitis of the small bones of the hands and feet following frost bite M SCOTT and V W PIGOTT J Med Soc New Jersey, 1935, 32: 361

Occupational and sport injuries in Dupuytren's contracture O SCHWITZER Muenchen med Wehnschr 1935 1 248

Regeneration of a sequestered basal phalanx of a finger H DOSKUCH Chirurg 1935 7 206

Spinal disease complicating Caucher's disease in a child Sr J D Buxton Proc Roy Soc Med Lond 1935 28 1037

A neurological study of injuries of the upper cervical vertebrae E C BAKER 1935 Freiburg: Br Disserta 1935

Accidents and scoliosis FORT Arch f orthop Chir, 1935 35 36

The mechanics of the vertebrae and scoliosis A PARKAS Orvosi hetil 1935 p 369

Ankylosing inflammation of the spinal articulations—pondylarthritis ankylopoietica F OENLECKER 59 Tag d deutsch Ges f Chir Berlin 1935 [375]

Ispondylolisthesis H H BURNS Proc Roy Soc Med Lond 1935 28 1033

A severe case of spondylolisthesis I KOPITS Arch. f orthop Chir 1934 34 609

Primary hydatid disease of the vertebrae L A WEBER and R I TOLEDO Act de ortop y traumatol, 1935, 4 245

Lumbar vertebral epiphysitis S ALLENBERG Arch Surg 1935 30 991

Joint chondromatous co-existing with two bone malformations: an osteogenic exostosis and an osseous fissure between the fifth lumbar and first sacral vertebrae M Atmo and A D MALONNAY Rev de ortop y traumatol, 1935 4 265 [376]

A giant-cell tumor of a lumbar vertebra H L C WOOD Proc Roy Soc Med Lond 1935 28 1030

A case of giant-cell tumor of the sacrum which invaded the inferior vena cava A C FREEMAN K K KIRBY and M K MOORE Am J Cancer 1935 24 345

Hydatid cyst of the iliopsoas muscle BARON and MANNING Arch demed rug yescapal 1935 16 318

The diagnosis of abnormal hip conditions in children M FORRESTER BRIT Med J Lancet 1935 2 3 137

The so-called cox vara congenita B SIMONS Beitr z klin Chir 1935 161 205

Otto's disease and other forms of protrusio acetabuli A OSTERVAARD Acta radiol 1935 16 200. [376]

Osteo arthritis of the hip joint T J McMEZAY Brit J Surg 1935 22 711

The para vascular fixation of the tuberculous hip joint and similar operative procedures M KARRIS 59 Tag d deutsch Ges f Chir Berlin 1935

Static mechanical changes as the cause of ischiatic disease diagnosis and treatment C HONMANN Zentralbl f innere Med 1935 p 224

Rupture of the menisci of the knee M B SCHWITZER med Wehnschr 1935 1 190

A case of arthritis of the knee RAMOND Presse med, 1935 43 81

Anatomical reconstruction of the lateral ligaments of the knee tendon autoplasty J H LACOMARINO Rev de ortop y traumatol 1935 4 220

The human leg, its normal developmental failures M JORNA 1935 Stuttgart: Lintke

Constitutional thick legs A ROSEN Ztschr f orthop Chir 1935 62 39

Stenosing tenosynovitis of the styloid process of the radius (d'Quervain) S. KATZEL Cas lek esk. 1935 p 122

Excision of the tendon of Achilles O F MAZZERI A S PETERS and A MONTO Bol y trab Soc de cirug de Buenos Aires, 1935 19 143

The movements of the fourth and fifth metatarsals and the reserve elasticity of the foot during walking. The significance of the cuboid metatarsal joint C HANSEN Chirurg 1935 7 84

Diseases of the feet and their treatment M SCHOTTE 1935 Wien Med Woch.

Congenital deformity of the astragalus and its relation to deformities of the foot DEUTSCHLAPFNER Ztschr f orthop Chir, 1935 62 122

The histological study of congenital flat foot S DENGEL Ztschr f orthop Chir 1935 63 43

Congenital club-foot MAR Ztschr f orthop Chir, 1935 62 158

A simple corrective club-foot splint for use at night G HONMANN Ztschr f orthop Chir 1935 62 431

Koehler's disease and tuberculosis A LOVATZ 121 Ztschr f orthop Chir 1935 62 310

Surgery of the Bones, Joints Muscles Tendons Etc

Experiences with high frequency currents (short waves and electrocoagulation) in the treatment of bone and joint tuberculosis LITZEN Ztschr f orthop Chir 1935 61 280

Mobilization of the joints in tuberculosis MYRZA BURANOFF Ztschr f orthop Chir 1935 62 276

A new treatment for tenosynovitis J FILLMAY Rhode Island M J 1935 18 80

Concealed polydactylism and triangle formation in the human hand P SCHLATER Arch f orthop Chir 1934 34 631

The operative treatment of scoliosis E K FAY Zentralbl f Chir 1935 p 66

The evaluation of the late results of surgical and conservative treatment of tuberculous synovitis in children L J MARIANOVICH Arch f orthop Chir 1935 62 17

The tilted pelvis and scoliosis treatment, preventive and operative S M FITCHER New England J Med, 1935 213 1082

Surgical treatment of closed tuberculosis of the iliofemoral joint R L LORT Bull et mém Soc nat de ch 1935 61 842

Intraabdomino-abdominal (hind-quarter) amputation G GORDON TAYLOR and P WILKS Brit J Surg 1935 22 671

The treatment of tuberculosis of the neck of the femur W DEKA Ztschr f orthop Chir 1935 62 405

The operative treatment of tuberculosis near joints with particular reference to the neck of the femur A J HERTZ Arch f klin Chir 1935 181 523

Early operative treatment of club-foot in the infant CONTAGIUS Ztschr f orthop Chir 1935 61 252

The treatment of club-foot in older children and of recurrent club-foot JENNINGS Ztschr f orthop Chir 1935 62 188

The treatment of paralyzed feet M HERTZ Zentralbl f Chir 1935 p 622

Radical operation for hallux valgus J HENRI Chirurg 1935 137

Fractures and Dislocations

The operative treatment of fractures W KARRIS 1935 Halle Wittenberg Dissertatun

Experiments in the treatment of fractures of the long bones F I CROOKER Am J Surg 1935 29 258

Some observations on the treatment and on the care of fractured bones E D NEWELL Am J Surg 1935 21 242

- The added problems presented by gas gangrene and tetanus in compound fractures R G CAROTHERS *Am J Surg*, 1935, 25 821
- An improved traction splint. C I ATTYN. *South M & S*, 1935, 97 318
- The technique of the application of plaster of-Paris bandages KIRSCHNER *Chirurg*, 1935, 7 167
- Plaster casts for use as extension apparatus G RIVEAU *Presse méd*, Par, 1935, 43 801
- Phosphatase in fractures E H ROTHEFELT and E J KING *Lancet*, 1935, 228 1207
- Pathological and anatomical changes in traumatic dislocation of the shoulder complicated by fracture of the greater tuberosity I HERMONSSON *Acta path Scand*, 1935, 12 122
- Rupp's operation for habitual dislocation of the shoulder E LUPICH *Zentralbl f Chir*, 1935, p 722
- The mechanism of the occurrence of fractures of the scapula Z TAKACS *Ztschr f orthop Chir*, 1935, 62 353
- Problems in the treatment of fractures of the upper extremity W HOYT *Ohio State M J*, 1935, 31 417
- Fracture of the upper extremity of the humerus with three fragments, osteosynthesis O F MAZZINI *Seminari méd*, 1935, 42 1375
- Supracondylar fracture of the humerus in children E THORGERSEN *Norsk Mag f Lægevidensk*, 1935, 96 112
- Experiences in the treatment of supracondylar fractures of the humerus F KLAGES 59 Tag d deutsch Ges f Chir, Berlin, 1935
- Fracture of the capitellum H W FITZGERALD *Australian & New Zealand J Surg*, 1935, 4 414
- The method of treating and the end-results of fractures of the lower end of the humerus in the Koenigsberg University Surgical Clinic during the past seven and a half years C LANG *Arch f orthop Chir*, 1935, 35 129
- The mechanism of occurrence and the treatment of fracture of the head of the radius I KRAUSS *Chirurg*, 1935, 7 173
- Reversed Colles fracture, with special reference to therapy G WEBB and W SHIFFIELD *J Am M Ass*, 1935, 104 2324
- Traumatic neurosis following fracture of both radiiuses PEUGNEZ *Bull et mém Soc d chirurgiens de Par*, 1935, 27 215
- Chaufeur's fracture W B R. MONTFITH *Lancet*, 1935, 228 1274
- The late results of wrist-joint injuries H CUFFY *Monatsschr f Unfallheilk*, 1935, 42 161
- Dislocation of the second row of the carpal bones W MAASS 1934 Kiel, Dissertation
- Fracture of the carpal scaphoid, with the report of a case J A Q JOHNSON *J Iowa State M Soc*, 1935, 25 307
- The sequelae in operative treatment of injuries to the carpus SCHNEK *Zentralbl f Chir*, 1935, p 702
- Fracture of the navicular bone difficult to diagnose G A PREISS *Schweiz med Wehnschr*, 1935, 1 105
- Pseudarthrosis of the navicular bone P ROSTOCK *Arch f orthop Chir*, 1935, 35 193
- Atlanto-axial dislocations unassociated with trauma and secondary to inflammatory foci in the neck J H HESS, I P BRONSTEIN, and S M ABELSON *Am J Dis Child*, 1935, 49 1137 [377]
- Fracture of the spinous processes E A ZIMMER *Beitr z klin Chir*, 1935, 161 273
- A medicolegal study of fracture of the transverse process E BRINKMAN *Zentralbl f Chir*, 1935, p 804
- Postoperative damage to the vertebral column, Verneuil fractures E SORREL *Bull et mém Soc nat de chir*, 1935, 61 654
- The duration of fixation in the treatment of fractures of the vertebrae L BOHLER *Beitr. z klin Chir*, 1935, 161 208
- Chronic arthritis of the ossifying type following fracture of the spine J MACLEOD *J de méd de Bordeaux*, 1935, 112 347 [377]
- X-ray in pelvic fractures L P HORMES *Internat. J Med & Surg*, 1935, 48 100
- Fracture or epiphyseal diastasis of the innominate bone followed by pyemia and death G H EDINGTON *Glasgow M J*, 1935, 123 360
- Is the problem of the treatment of unreducible congenital dislocation of the hip to be considered as solved? LOEFFLER *Ztschr f orthop Chir*, 1935, 62 338
- The prognosis of congenital dislocation of the hip with closed reduction A FANFZ *Ztschr f orthop Chir*, 1935, 62 358
- The early recognition and treatment of congenital dislocation of the hip G HOHMANN *Med Welt*, 1935, pp 180, 220
- Birth fractures of the femur A RADFON *Surg, Gynec. & Obst*, 1935, 60 1008
- Fracture of the femur, the Roger-Anderson-Wall leg splint P. Y DONALD *Internat J Med & Surg*, 1935, 48 201
- Fracture of the neck of the femur J HOERS *Med J Australia*, 1935, 1 743
- Central fractures of the neck of the femur; the end-results J S SPIEL *J Am M Ass*, 1935, 104 2059
- Nailing of collum femoris fractures E T LINDBOF *Acta chirurg Scand*, 1935, 76 325 [378]
- Fracture of the shaft of the femur with lesion of the sciatic nerve H STERNBERG *Zentralbl f Chir*, 1935, p 823
- A new method of treating fractures in the distal third of the femur R ANDERSON *Canadian M Ass J*, 1935, 32 625
- Experiences in the operative treatment of pseudarthrosis of the neck of the femur by the method of Pauwels M. BRANDES 59 Tag d deutsch Ges f Chir, Berlin, 1935.
- The treatment of certain fractures of the patella J A DICKSON *Cleveland Clin Quarterly*, 1935, 2 29
- Transfixation for severe open infracondylar and diaphyseal fractures of the leg LHALT *Zentralbl f Chir*, 1935, p 705
- A complicated fracture of the tibia with opening of the knee joint DEUTICKE *Zentralbl f Chir*, 1935, p 708
- Discussion on fracture of the tibia involving the knee joint *Proc Roy. Soc Med, Lond*, 1935, 28 1035
- The treatment of severe open dislocation of the ankle G SALZER *Zentralbl f Chir*, 1935, p 768
- Sprains of the foot and ankle, with appropriate treatment H A BALDWIN and H P WORSTELL *Internat J Med & Surg*, 1935, 48 210
- Dislocation of the talonavicular joint P HUBER *Deutsche Ztschr. f Chir*, 1935, 244 631
- Fracture of the body of the calcaneum T A OUTLAND *Pennsylvania M. J*, 1935, 38 487 [378]
- Fractures of the os calcis F FELSENFELT *Zentralbl f Chir*, 1935, p 825
- Surgical observations in naval warfare, fracture of the os calcis as a typical naval injury G. MAGNUS *Deutsche med Wehnschr*, 1935, 1 314

Orthopedics in General

- An outline of orthopedic mechanics H VON BAEYER. 1935. Berlin, Springer
- The cutaneous nerves as the basis of stump neuralgia A G MOLOTOFF *Arch f. klin Chir*, 1935, 181 515

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

The ligation of veins with arteries. J BELL Irish J M Sc 1935 70 114 p 62

The treatment of varices. P ALGLAVE Pres et m d Par 191 43 957 [379]

The treatment of varicose veins. Is systemic disease a contra indication? E A EDWARDS J Am M Ass 1935 104 20,

Internal treatment of varicosities. L SZENCK Magy Nögygy 1935 4 67

The prevention of recurrences following the injection treatment of varicose veins. O HORN Ugesk. f Læger 1935 1 391

Obliterative arterial disease treated with muscle extract. M SCHWARTZMAN Lancet 1935 228 1170

Emphysema nodosa as a manifestation of sepsis lenta due to the streptococcus viridans. F MAINZER and W JOEL Acta med Scand 1935 85 397

Thrombo-angitis obliterans (Buerger). P S LOWEN STEL J Missouri State M Ass 1935 32 227

Two cases of Buerger's disease. G MOSKOFF Ber bulg chir Ges 1934 1 13

Pain in thrombo angitis obliterans. A clinical study of 100 consecutive cases. G A GOLDSMITH and G E BROWN Am J M Sc 1935 130 819

Embolectomy. P J FEITELBERG Pre se méd. Par 1935 43 844

Aneurysm of the temporal artery. V WICKSTROM and M EDWARDS Am J Surg 1935 28 606

So-called aneurysm of the ascending pharyngeal artery report of one case which developed under observation. P B MACCREADY Ann Otol Rhinol & Laryngol 1935 44 573

Post traumatic thrombosis of the carotid artery. T GRECO Arch ital di chir 1935 59 757 [379]

An experimental study of carotid subclavian anastomoses. D LLOYD Arch ital di chir 1935 39 791

So called traumatic thrombosis of the arm and axillary veins. E FICK Beitr z klin Chir 193 161 236

Studies on peripheral vascular phenomena. IV. Finger volume changes in a patient showing Raynaud's phenomenon. C A JOHNSON and R N HERRICK Surg Gynec & Obst 1935 60 1077

Chronic congested conditions of the extremities. E BURN Med Klin 1935 1 414

Peripheral nerve block in obliterative vascular disease of the lower extremity. Further experience with alcohol injection or crushing of the sensory nerves of the lower leg. R H SWARTWICK and J C WAITT Surg Gynec & Obst 1935 60 1106

A peculiar cause of femoral artery aneurysm. H BOEHL Chirurg 1935 7 155

Rupture of the popliteal artery and vein. W A STELL Brit M J 1935 1 1165

The treatment of leg ulcers. P KOTZCOLO Chirurg 1935 180

The danger of gangrene of the toes in thrombo-angitis obliterans and arteriosclerosis obliterans. N W BARKER J Am M Ass 1935 104 2147

Blood Transfusion

Indications for blood transfusion and results in 1242 cases. A PILATOV J MAJAN N KARTASEVSKIY and M DORZHEITZ Zh Chir 1935 151 109

Are test sera for the determination of blood groups always reliable? H BIRKLE DE LA CAMPE Schweiz med Wchnsch 1935 1 45

The therapeutic action of antistreptococcal immunoglobulin. DESPLAS Bull et mém Soc nat de chir 1935 61 678

Lymph Glands and Lymphatic Vessels

Experiences in the surgical treatment of lymphedema. A H M LINDGREN Proc Roy Soc Med Lond 1935 28 1122

Traumatic leukemia and priapism. O ROESSLER Muenchen med Wchnsch 1935 1 117

The treatment of tuberculous adenitis by the intra venous phatic injection of formalinized chloroform in ether. MOORE BALDEZ and ROUALTE Bull et mém Soc nat de chir 1935 61 604

Malignant monoblastoma. A variant of monoblastic leukemia. L A MITCHELL Ann Int M d 1935 2 1187 [380]

The histogenesis of lymphosarcomatosis. J C ENRIKSEN and I E GERBER Am J Cancer 1935 24 1 [381]

SURGICAL TECHNIQUE

Operative Surgery and Technique
Postoperative Treatment

The preparation and protection of the hands during operation. H WELER 9 Tag d deutsch Ges f Chir Berlin 1935

The operative risk in cases of hemophilia. H FRIEDRICH Chirurg 1935 7 73 [382]

Novocain block as a method of affecting the trophic function of the nerves. Instruction in the use of novocain block. A W WISCHNIBERK Zentralbl f Chir 1935 1 735

Operating room technique. A step-by-step analysis. M DOWLER Mod Hosp 1935 44 41

Plastic surgery. The optimum time for operation. PICKERILL New Zealand M J 1935 34 134

The question of homoplastic skin grafting. H V TRUSLER and H D CORSWELL J Am M Ass 1935 104 1096 [383]

Errors dangers and unforeseen complications in pediculated flaps. J LINDVALL M Arch f klin Chir 1935 181 529

The repair of surface defects from burns and other causes with thick split skin grafts. J B LEWIS V P BLAIR and L T BYARS South M J 1935 28 408 529

Closure in the presence of severe injuries with loss of skin and opening of joints. KRENSLEHNER Zentralbl f Chir 1935 p 77

Tattooing of the nose and face following autoneurolysis. W W CARTER New York State J M 1935 35 573

- Anesthesia in thoracic surgery C J HEWER *Anes & Anal* 1935 14 120
- Anesthesia in obstetrics with special reference to complicated cases S JOHNSON *Anes & Anal*, 1935 14 124
- Anesthetic statistics of the Irburg University Surgical Clinic KILLIAN *Schmerz* 1935 7 112
- Difficulties and methods of anesthesia in South Africa E G VAN HOOGESTRATE *Anes & Anal* 1935 14 131
- The electrical ignition of explosive anesthetic mixtures G I FINCH *Proc Roy Soc Med Lond* 1935 28 1150
- An explosion in anesthetic apparatus R. LLOYD *Proc Roy Soc Med Lond* 1935 28 1127
- A consideration of the susceptibility and the resistance of tissues to the general anesthetic W DEB MACNIDER *Anes & Anal* 1935 14 97
- Endotracheal inhalation anesthesia W I T HOTTEY *Royal Prince Alfred Hosp J Clin Med*, 1934 p 153
- Spinal anesthesia K T KLEIN *Internat J Med & Surg* 1935 48 20
- Typhlitis syndrome following spinal anesthesia R DAS EN *Semana med* 1935 42 1145 [386]
- Intra thecal nerve rootlet block, some contributions a new technique W E WILSON *Anes & Anal* 1935, 14 102
- Carbon-dioxide and oxygen therapy and methods of administration A W MORROW *Royal Prince Alfred Hosp Year Book* 1934 p 100
- The use of ethyl chloride anesthesia in the Easelsberg and Ranzi Clinics from 1904 to 1934 E PAMUSCHER *Arch f klin Chir* 1935 182 158
- Conscientious intelligent anaesthesia with nitrous oxide oxygen for dental surgery W H ARCHER *Anes & Anal* 1935 14 127
- Anesthesia with ether vapor under high tension V The mechanization of anesthesia its control and its normals M TIEGL *Zentralbl f Chir* 1935 p 485
- Evipan B DESPLAS *Bull et mém. Soc. nat de chir* 1935 61 663
- Evipan anesthesia H SLEJ IFSKI *Polski Przegl chir*, 1935 14 57
- Intravenous sodium evipan anesthesia H WINKELMAN *Anes & Anal* 1935 14 136
- The relief of complete respiratory paralysis following the use of evipan W FORNIG *Zentralbl f Chir* 1935 p 688
- Avertin and evipan in surgical practice E OETZ *Zentralbl f Chir* 1935 p 1104
- The advantages of morphine in evipan anesthesia K VOELLER and KOTZORZ *Chirurg*, 1935, 21
- Avertin as a complete anesthetic in children J BUCH *Brit M J*, 1935 1 1130
- Nupercain as a spinal anesthetic H S JACK *J Urol* 1935 33 623
- Funarcon a new intravenous anesthetic F MEIER *Zentralbl f Gynaek* 1935 p 1106
- Funarcon a readily usable intravenous anesthetic for gynecology and obstetrics H GAMSTÄTTEN *Zentralbl f Gynaek* 1935 p 1108
- The new divinylether vareneth H FILLIAT *30 Tag d deutsch Ges f Chir Berlin* 1935

Surgical Instruments and Apparatus

- The simple type of bandage for wounds and ulcers of the breast S P SCHILOFF *Zentralbl f Chir* 1935 p 497
- The adequacy of nutritional retardation in culture of sterile maggots for surgical use S W SIMMONS *Arch Surg* 1935 30 1024
- The use of low temperatures in culture and transportation of surgical maggots S W SIMMONS *Arch Surg* 1935 30 1015

PHYSICO-CHEMICAL METHODS IN SURGERY

Röntgenology

- Speedier production of the finished radiograph A E BARCLAY *Brit J Radiol* 1935 8 373
- The dangers of roentgenoscopy and methods of protection against them V Some considerations of the dose received during examination of the colon E I L CILLEY F T LENDY and B R KIRKLY *Am J Roentgenol* 1935 13 787
- Studies on the skin exposure in roentgen diagnosis K B JÄGERBOLM *Acta radiol* 1935 16 518
- The roentgenological diagnosis of intrathoracic neoplasms G JANSON *Acta radiol* 1935 16 411
- Grandeur and misery in radiology of the lungs I CHENEY R BENO and H MOLLARD *Presse med Par* 1935 43 78
- Tissue culture III Its application to radiological research F C SEPAR *Brit J Radiol* 1935 8 280
- The use of 300 kilovolts in deep X-ray therapy some personal experiences A T NISBET *Med J Australia* 1935 1 733
- The constitutional effects of X-rays as determined by blood serum tests S G SCOTT and F HERMANAU *Brit J Radiol* 1935 8 365
- Röntgen therapy for acute cervical adenitis S G SCHENCK *Am J Dis Child* 1935 49 142
- Protection against irradiation in the present Swedish roentgenological centers A ÅKERLUND *Acta radiol* 1935 16 379
- Notes on the prophylaxis of radionecrosis R K SCOTT *Med J Australia* 1935 1 76
- Infrared irradiation in the treatment of radionecrotic ulceration P A BOWA and R K SCOTT *Med J Australia* 1935 1 769

Radium

- The present and future of radium teletherapy E R CARLING and F M ALLCHIN *Proc Roy Soc Med Lond* 1935 28 1145
- Telecurietherapy B F SCHREINER, M C REINHARD and W H WEHR *Am J Cancer* 1935 24 386 [347]
- Burns produced by radium short wave and ultra short wave therapy and their prevention D H KIRBY and G O BERO *J Am M Ass* 1935 104 1984
- A radium dosage calculator H S SCOTTAR *Brit J Radiol* 1935 8 335
- A contribution concerning the effect of radium-chloride injections W ALTCHUL *Brit J Radiol* 1935 8 306
- Hazards in the use of radium in cancer M J SITTEN *Field* *Am J Roentgenol* 1935 33 235
- Radium dosage and technique in carcinoma of the skin with special reference to interstitial irradiation with platinum radium needles H N COLE and J R DAVIES *Am J Roentgenol* 1935 33 682 [384]
- Radium therapy of Dupuytren's contracture F TOMANEK *Cas lek česk* 1935 p 46

Miscellaneous

Some observations on physiotherapy in the treatment of fibrositis and other rheumatic conditions J C ALEXANDER Glasgow M J, 1935, 123: 350

Considerations relative to the evaluation of ultraviolet radiation in absolute units W W COBLENTZ Am J Roentgenol, 1935, 33: 793

Studies on the possible biological action of cosmic rays R. B. ENGELSTAD and N. H. MOXNES Acta radiol, 1935, 16: 485

Permanent results of irradiation for inoperable cancer J C BLOODGOOD Am J Surg, 1935, 28: 490

Electrosurgery A discussion of indications, advantages, disadvantages, and warnings concerning its use H. E. MOCK J Am M Ass, 1935, 104: 2341

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

Congenital deformities of the skin K STEINER. 1935. Berlin, Vogel

Acrocephalo-syndactylism (acrobrachy-cephalosyndactylism) M P SUSMAN Australian & New Zealand J Surg, 1935, 4: 418

Hereditary hermaphroditism J M O'FARRELL. J Am M Ass, 1935, 104: 1968

The inheritance of surgical diseases BIRKENFELD Zentralbl f Chir, 1935, p 584

Recurrent hydrocephalus H. R. LELAND Am J Obst & Gynec, 1935, 29: 886

Studies on the physiology of milk formation II Experimental development of the breast and stimulation of lactation in male animals K J ANSELMINO L HEROLD, and F. HOFFMANN Zentralbl f Gynaek, 1935, p 963

Facial hemiatrophy H P PICKERILL Australian & New Zealand J. Surg, 1935, 4: 404

Concealed accidental hemorrhage A W VASEY Lancet, 1935, 228: 1330

Lymphedema of the leg T J BIGGS Med J Australia, 1935, 1: 623

Fat embolism F J JIRKA and C S SCUDERI J Lab. & Clin Med, 1935, 20: 945

Acute inguinal adenitis simulating strangulated femoral hernia A. A. KLASS Lancet, 1935, 228: 1501.

A case of "botryomycosis" F MARSH Lancet, 1935, 228: 1443

Amebiasis and its surgical complications J J A McMULLIN U S Nav M Bull, 1935, 33: 313 [389]

The surgery of tuberculosis and its association with injury F STUMPF Arch f orthop Chir, 1935, 35: 147

The pigmented mole H G BELL West J Surg, Obst & Gynec, 1935, 43: 339

The pathology of agranulocytosis; absolute granulopenia J C NORRIS South M J, 1935, 28: 504

Milkers' nodules P BONNEVIE Ugesk f Læger, 1935, p 143

Masses in the groin I COHN Internat Clin, 1935, 2: 229

A tumor classification for diagnostic radiotherapy J. GERSHON-COHEN Am J Roentgenol, 1935, 33: 829

Growth-affecting hormones and the development of tumors P ENGEL Ztschr f Krebsforsch, 1935, 41: 488

Human fibroblasts grown for a year in a medium of sheep plasma and two solutions of known composition E ERLICHMAN Am J Cancer, 1935, 24: 393

Hypophysectomy and tumor growth L T. SAMUELS and H A BALL Am J Cancer, 1935, 23: 801

Chemical studies on tumor tissue II. The effect of protein on the swelling of normal and tumor cells of mice *in vitro* M J SHEAR Am J Cancer, 1935, 23: 771

Lipogranuloma following traumatism to areas of fat necrosis D VANNUCCI and C MONTAGNANA Beitr z klin Chir, 1935, 161: 177

Two cases of desmoma or desmoid tumor F W MARLOW Canadian M. Ass J, 1935, 32: 674

Tumor of the neuromyo-arterial glomus; a report of cases V RAISMAN and L MAYER. Arch Surg, 1935, 30: 911

Glomus tumor A brief clinical study of the glomus angiomysoneurome artériel of Barré and Masson M. S BURMAN and A. M GOLD New York State J M, 1935, 35: 618

Tumor of a subcutaneous glomus W. K. LIVINGSTON West. J Surg, Obst & Gynec, 1935, 43: 329

The benignancy of myxoma USADEL Zentralbl f Chir, 1935, p 571

A glioma in a dog and a pinealoma in a silver fox (vulpes fulvus) C F SCHLOTTHAUER and J. W. KERNOHAN Am. J Cancer, 1935, 24: 350

Ectodermal tumors of the skin C F GESCHICKTER and H P KOEHLER. Am J Cancer, 1935, 23: 804.

Epithelioma of the skin and oral mucous membranes J K HOWLES South M. J, 1935, 28: 494.

Adamantinomas of the hypophyseal stalk and sphenoid bone H ZEITLIN Am J Cancer, 1935, 23: 729

The problem of cancer F PICCALUGA Rev méd-quirurg. de patol femmina, 1935, 3: 458

Should the surgeon still look upon carcinoma as a purely local disease? F. KOENIG 59 Tag d deutsch. Ges f Chir, Berlin, 1935

The indophenol-blue-oxygen reaction in carcinoma E SEHPT Zentralbl f Chir, 1935, p 613

The effect of age on the infection index of cancer patients P ENGEL Wien klin Wchnschr, 1935, 1: 112

Infectious diseases in the history of carcinoma patients S PELLER. Wien klin Wchnschr, 1935, 1: 111

Malignancy engrafted on actinomycosis F. McK RUBY J Indiana State M. Ass, 1935, 28: 271.

The etiology of cancer of the skin A R. SOMERFORD Brit M J, 1935, 1: 1395

The treatment of skin cancer B SHELWIRE and E C FOX. South M J, 1935, 28: 489

Pathological and clinical aspects of early skin carcinoma R L SUTTON, JR J Missouri State M Ass, 1935, 32: 224.

Spindle-cell epidermoid carcinoma H. E. MARTIN and F W STEWART Am J Cancer, 1935, 24: 273 [389]

The prognosis of carcinoma in Bier's clinic A HINTZE Muenchen med Wchnschr, 1935, p 163

Metastasis of a squamous cell carcinoma from the wrist to the axilla without demonstrable intervening growth E R LONG Am J Cancer, 1935, 23: 797

Dispelling pessimism in the treatment of cancer A. HINTZE Muenchen med Wchnschr, 1935, 1: 210 [390]

The chemotherapy of cancer I Lead J A BARGEN, B T HORTON, and A E. OSTERBERG Am J Cancer, 1935, 23: 762

The treatment and cure of malignant melanomas A HINTZE 59 Tag. d. deutsch Ges f. Chir, Berlin, 1935

The roentgen and radium treatment of malignancies H HOLFELDER Wiss Woche Frankfurt a M., 1935, 2: 91.

Electrosurgical treatment of cancer diathermy coagulation of bone tumors tumors of the mandible treated by diathermy coagulation M KROZNY Rev bras de cirurg 1935 4 163

Growth promoting and growth inhibiting substances extracted from normal organs An experimental study of diet in rat cancer J MAYER and J POLUBAR Am J Cancer 1935 24 357 [391]

The shock syndrome in medicine and surgery V H. MOON Ann Int Med 1935 8 1633

Suction with a nasal catheter its effect on the blood chemistry report of a case R F NORTHROP Arch Surg 1935 30 1010

Studies in the water requirements of surgical patients F A COLLIER and W C MADDOCK Anes & Anal 1935 14 140

The heart in surgery A J PATZ Wisconsin M J 1935 34 346

Surgery in diabetes JULIO LÓPEZ and ESTÉVEZ Arch uruguayos de med cirug y especial 1935 6 391

The infectivity of dust in operating rooms. MOIRE DESPLAS and PROUST Bull et mém Soc nat de chir 1935 61 673

General Bacterial, Protozoan, and Parasitic Infections

The acid base balance in surgical sepsis in infancy PLETON Clin chir 1935 11 383

Welch bacillus infections treatment by the autolysate method G R DAWSON JR J South Carolina M Ass 1935 31 111

Systemic blastomycosis H J WINE Illinois M J 1935 67 552

Ductless Glands

The structure of the endocrine organs. H M KINGERY Colorado Med 1935 32 446

The more important pathological lesions associated with endocrinopathies G Z WILLIAMS Colorado Med 1935 32 448

Sex endocrine factors in the blood and urine in health and in disease R T FRANK J Am M Ass 1935 194 1901

Surgery of the ductless glands C F CHURLEY Colorado Med 1935 32 450

The content of hormone from the anterior lobe of the pituitary in the hypothalamus of dogs G PLUMMER Endocrinology 1935 19 293

Acquired resistance to the thyroid stimulating hormone and pseudotumescing hormone of the anterior lobe of the pituitary in cattle I MAX M M SCHNEIDER and L LOEB Endocrinology 1935 19 319

The effects of pituitrin, pitressin and pitocin upon the copper reducing substances in the serum and urine of dogs A R McINTYRE R F STEVENS and H J FARR Endocrinology 1935 19 298

The relation of blood volume to certain glands of internal secretion The effect of thyroid and gonad aliation M FRIEDLANDER V LASKY and S STRUBEL Endocrinology 1935 19 342

The parathyroid glands in health and disease W BAYER Virginia M Month 1935 62 123 [391]

Hyperparathyroidism with blood phosphorus and calcium changes I I BAKER J Michigan State M Soc 1935 34 381

The skin in experimental hyperparathyroidism A study of experimental scleroderma R LFAUCHY A JEAN and C SIKREYA Presse méd Par 1935 43 777

Hyperparathyroidism The clinical picture in the advanced stage second report A J QUICK A HILGEBERG JR E L ELLISON and H HENSON J Am M Ass 1935 104 2248

Diabetes insipidus treatment with intermedin and pit melanin A preliminary report of five cases H H TURNER Endocrinology 1935 19 275

Successful ovarian therapy in a case of severe preadolescent eunuchoidism H LYSER Endocrinology 1935 19 284

The effect of folliculin and thyroxin on queen mar guerites P CHOUARD Gynécologie 1935 34 352

The effect of spaying on body growth and the weights of the allanto rat C B FREUDENBERGER and O A BILLETER Endocrinology 1935 19 367

Surgical Pathology and Diagnosis

A new method of clinical study based on fluorescence A BOUTARIC Presse méd Par 1935 43 81

Complement fixation reactions in carcinoma H W LEVY J Lab & Clin Med 1935 20 923

Excision of biopsy specimens with a boring instrument KIRSCHNER Schweiz med Wchnschr 1935 1 23

NOVEMBER, 1935

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVAL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Index of Abstracts of Current Literature	iii-vi
II. Authors of Articles Abstracted	viii
III. Collective Review	417-425
IV. Abstracts of Current Literature	426-480
V. Bibliography of Current Literature	481-504

Editorial Communications Should Be Sent to Allen B. Kanavel, Editor, 54 East Erie St., Chicago
Editorial and Business Offices: 54 East Erie St., Chicago, Illinois, U. S. A.
In Great Britain: 8 Henrietta St., Covent Garden, London, W. C. 2.

CONTENTS—NOVEMBER, 1935

COLLECTIVE REVIEW

THE EARLY HISTORY OF PERMANENT EXTENSION IN THE TREATMENT OF FRACTURES	<i>Lester Blum,</i> <i>M D., New York, N. Y.</i>	417
--	---	-----

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

Eye

EAGLETON, W P Exophthalmos from Surgical Diseases, Especially as to Involvement of the Protective Retrobulbar Space	426
GREEVES, R A Some Aspects of Glaucoma	426
KAHLER, A R, and O'BRIEN, C S Disciform Degeneration of the Macula	427

Nose and Sinuses

CAMERON, J. A. M. An Investigation of the Part Played by Allergy or Sensitization as a Factor in Predisposing the Mucous Membrane of the Nasal Passages and the Paranasal Sinuses to Infection and Its Bearing upon the Treatment of Disease of These Cavities	427
HEINE, L H Malignant Tumors of the Nasopharynx	427
GESCHICATER, C F Tumors of the Nasal and Paranasal Cavities	427
BURMAN, H J Sinusitis in Children	427
SMITH, F, YATES, A L, LAYTON, T B, HOWARTH, W, RUSSELL, H G B, and Others Discussion on the Treatment of Chronic Infection of the Nasal Accessory Sinuses The Management of Chronic Sinus Disease—Conservative or Radical?	428

Mouth

VFAU, V Harelip A Theory Regarding the Primary Malformation	420
---	-----

Neck

HOFMANN, A Infectious Diseases and Hyperthyroidism	429
CUTLER, F C Total Thyroidectomy for Heart Disease	429
HUI, P C, and ESCAT, M Total Laryngectomy	430
BERNABRO, C Parathyroidectomy and Recklinghausen's Disease	439
LE RICHE, R, JUNG, A, and SUREY, C The Skin in Experimental Hyperparathyroidism A Study of Experimental Scleroderma	430

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

KULCSAR, F The Importance of Percussion of the Skull by the Method of Benedek	431
COURVILLE, C B, and NIELSEN, J. M Otogenous Abscess of the Parietal Lobe A Review of the Literature and a Report of Six Cases	431
FISCHER, E Examinations of the Lymph Vessels of the Meninges and Serosa of Animal and Human Fetuses	432
BERGSTRAND, H, and OLIVECRONA, H Angioblastic Meningiomas	432
TORRACCI, L A Tumor of the Dura Mater Perforating the Vault of the Cranium	432
WATTS, J W, and UHLE, C. A W Bladder Dysfunction in Cases of Brain Tumor A Cystometric Study	455

Spinal Cord and Its Coverings

GARCIA, D E Syringomyelia	432
CHIASERINI, A Intercostoradicular Anastomosis in Vertebral Injuries with Section of the Lumbar Spinal Cord	433

SURGERY OF THE THORAX

Chest Wall and Breast

BELLINI, A. A Contribution on Bleeding Breast	434
---	-----

Trachea, Lungs, and Pleura

SEMB, C Thoracoplasty with Extrafascial Apicectomy	434
ILETCHEP, E Bronchiectasis	435
MEVILLE, P, and LEMOINE, J M : Bronchiectasia and Thrombosis of the Bronchial Artery	436
BROWDER, J, and DEVLIN, J A The Varied Pathological Basis for the Symptomatology Produced by Tumors in the Region of the Pulmonary Apex and Upper Mediastinum	436
DESCHEID, G, and TOUSSAINT, P Pleural Inflammations A Photographic and Photomicrographic Study	436
TOISSIER, J, BARTHELEMY, M, and BROCAUD, H Sudden Death in the Course of Serofibrinous Pleurisy	436

OGGIO G The Influence of Surgical Trauma on the Genesis of Postoperative Pulmonary Complications

SNYDER H F Postoperative Pulmonary Atelectasis A Report of Eleven Cases

Heart and Pericardium

CUTLER, E C Total Thyroidectomy for Heart Disease

Esophagus and Mediastinum

LANZILLO F The Surgical Anatomy of the Thoracic Esophagus

Miscellaneous

LITTLE O R and FOX G W Traumatic Intrathoracic Rupture of the Thoracic Duct with Chylothorax

MILIC C M and CHEN H I The Association of Intrathoracic Lesions with Bone and Joint Tuberculosis A Study of 100 Cases

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

COOPER The Importance of the Transversalis Fascia in the Development of Inguinal Hernia

BRATTON A F The Ambulant Treatment of Hernia

Gastro Intestinal Tract

MACCARTHY F B Cardiospasm A Report of Two Cases with Postmortem Observations

WESTERNMAN J J The Surgical Aspects of Bleeding Gastric and Duodenal Ulcer

FRYS H and LEUR L Contributions on the Problem of Intestinal Invagination

COLD E and STRATTON O The Radical Operation for Carcinoma of the Rectum on the Basis of Clinical Material of the Last Ten Years

ZONCHI S and ROSENCRON E A Roentgenological Study of the Topographic and Functional Changes of the Intestine in Pregnancy at Term

Liver Gall Bladder Pancreas and Spleen

MOONEY A C Cholecystography

MOPATH A Lymphatic Stasis in the Genesis of Lipidosis of the Gall Bladder

ARVESWORTH K H Structure of the Common Bile Duct

ALLEN A W and WALLACE R H The Technique of Operation on the Common Bile Duct

MCLAUGHAN J M Subtotal Pancreatectomy for Hyperinsulinism

GILBERT R JUNLT K and KADENNA S The Reaction of the Liver and Spleen to Roentgen Irradiation After the Intravenous Injection of Thorotrast

Miscellaneous

CHABRO NIK A Getting the Latent Out of Bed Early After Abdominal Surgery

GYNECOLOGY

Adnexal and Peritoneal Conditions

ROBINSON M R The Surgical Treatment of Ovarian Dysfunctions

CROUS E R and DUPONT A Ovarian Metastases of Epitheliomas of the Digestive Tract Krukenberg Tumors

CHAVANNAZ J Krukenberg Tumors

KAUFMAN C Therapeutics with Ovarian Hormones

Miscellaneous

BERGUTI E Primary Thrombopenia Syndromes and the Obstetrical and Gynecological Form

OBSTETRICS

Pregnancy and Its Complications

PAGLIARI M One Hundred Cases of Placenta Previa Centralis and Marginalis

ENGELING E Ophthalmologically Important Roentgen Ray Injuries to the Fetus After Irradiation During Pregnancy

ZOCCHI S and ROSENCRON E A Roentgenological Study of the Topographic and Functional Changes of the Intestine in Pregnancy at Term

VAYRYN V Cases of Polyneuritis and Myelitis Caused by Pregnancy Toxemia

McCORD J R Syphilis and Pregnancy A Clinical Study of 150 Cases

RIFKIN Diagnostic Difficulties in a Case of Pregnancy Complicated by a Softened Fibroma

Labor and Its Complications

LORENZETTI F The Kjelland Forceps Judged on the Basis of 700 Applications and a Modification of the Technique of Their Use

ARISTENSEN B Manual Detachment of the Placenta and Intra Uterine Fertilization

Puerperium and Its Complications

GIBBERD G F The Treatment of Puerperal Sepsis

SALAMERO CASTILLO and USUA Two Interesting Cases of Puerperal Gangrene

Newborn

POOLE W H and WHITTLE C H Epidemic Pemphigus of the Newly Born

Miscellaneous

FEINER D Chorionepithelioma with a Long Latent Period

BREWS A A Follow Up Survey of the Cases of Hydatidiform Mole and Chorionepithelioma Treated at the London Hospital Since 1912

GENITO-URINARY SURGERY

Adrenal Kidney, and Ureter

SOROSKO J A The Late Effect of Denervation of the Adrenal Gland on the Secretion of Epinephrine

- KEYSLER, L. D. Recurrent Urolithiasis. Etiological Factors and Clinical Management 453
- JAKŠI, J. The Hydronephrotic Bases of Renal Atrophy 453
- ROMANI, A. Contribution to the Study of Enterorenal Fistulas. Massive Tuberculosis of the Kidney and the Left Renal Space with the Formation of a Fistula into the Colon and to the Exterior 454
- MARCUCCI, G. The Treatment of the Ureter Remaining After Nephrectomy 454
- FOLEY, F. E. B. The Management of Ureteral Stone Operation Versus Expectancy and Manipulation 455
- Bladder, Urethra, and Penis**
- WATTS, J. W., and UHLF, C. A. W. Bladder Dysfunction in Cases of Brain Tumor 455
- COUNSELLER, V. S., and BRAVACH, W. F. Diathermy for Carcinoma of the Bladder 456
- Genital Organs**
- PUTZ, F. New Orientations in the Treatment of Hypertrophy of the Prostate 456
- HOESS, H. Transurethral Treatment of Prostatic Hypertrophy 457
- GRANT, O. The Treatment of Chronic Prostatitis by Injection 457
- ROSENBERG, W. Abscess of the Testicle 457
- CUTLER, M., and OWEN, S. L. The Clinical Value of Prolan-A Determinations in Teratoma Testis 458
- HINMAN, F., and POWELL, T. O. The Gonadotropic Hormone in the Urine of Men with Tumor of the Testis 458
- HINMAN, F. The Prognosis and Treatment of Tumors of the Testis 458
- SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS**
- Conditions of the Bones, Joints, Muscles, Tendons, Etc**
- MENG, C. M., and CHEN, H. I. The Association of Intrathoracic Lesions with Bone and Joint Tuberculosis. A Study of 100 Cases 459
- RUTISHAUSER, E., BROCCARD, R., and BIANCHI, M. How Soon After the First Injection of Parathormone, Glucose, or Lead Salts Do the First Signs of Osteitis Fibrosa Appear? 459
- BERNABEO, C. Parathyroidectomy and Recklinghausen's Disease 459
- D'HARCOURT, J., and D'HARCOURT, M. A Contribution to the Study of Volkmann's Ischemic Contracture 459
- McMURRAY, T. P. Osteo-Arthritis of the Hip Joint 460
- SPAULDING, H. V. The Traumatic Knee 461
- DARRACH, W. Internal Derangements of the Knee 461
- CASINI, A. Malpighian Epithelioma on an Old Osteomyelitic Focus of the Tibia—So-Called Adamantinoma of Fischer? 462
- ALBERT, B. Accidents to the Hand and Arm 470
- PICCHIO, C. Tumors of the Sacrum from the Roentgen Point of View 475
- Surgery of the Bones, Joints, Muscles, Tendons, Etc.**
- ERLACHER, P. J. The Radical Operative Treatment of Bone and Joint Tuberculosis 462
- RADULFSCO, A. D. Curved Osteotomy of the Innominate Bone as Treatment for Ankylosis of the Hip in Poor Position 462
- DEL TORTO, P. The Treatment of Congenital Club-Foot 463
- BUGYT, I. Radical Operation for Hallux Valgus 463
- Fractures and Dislocations**
- DUNLOP, J. Traumatic Separation of the Medial Epicondyle of the Humerus in Adolescence 463
- LITPACIOIU, G. Fracture of the Cervical Spine from the Standpoint of Roentgenological Investigation 464
- MILLS, G. P. A Modification of Whitman's Treatment for Fracture of the Neck of the Femur 464
- SURGERY OF BLOOD AND LYMPH SYSTEMS**
- Blood Vessels**
- EDWARDS, E. A. The Treatment of Varicose Veins. Is Systemic Disease a Contra-Indication? 465
- BERNABEO, V., and NOVARA, L. The Results of Total Arterial Obstruction. An Experimental Study 465
- MAINZER, F., and JOEL, W. Periarthritis Nodosa as a Manifestation of Sepsis Lenta Due to the Streptococcus Viridans 465
- GOLDSMITH, G. A., and BROWN, G. E. Pain in Thrombo-Angitis Obliterans. A Clinical Study of 100 Consecutive Cases 466
- LOIA, D. An Experimental Study of Carotid-Subclavian Anastomoses 466
- KUN, E. So-Called "Traumatic Thrombosis" of the Arm and Axillary Veins 467
- WERTHEIMER, P., and FRILH, P. Venous Thromboses, Arterial Obliterations, and Gangrene of the Limbs 467
- Blood; Transfusion**
- BERUTTI, E. Primary Thrombopenia Syndromes and the Obstetrical and Gynecological Form 466
- TINPANO, M. The Blood Changes Occurring in the Course of Roentgen Therapy with Large Fractionated and Protracted Doses 474
- Lymph Glands and Lymphatic Vessels**
- FISCHER, E. Examinations of the Lymph Vessels of the Meninges and Serosa of Animal and Human Fetuses 432
- TENEFF, S., and STOPPANI, F. The Effect of Irradiation on the Lymph Glands and the Lymphatic Circulation 474
- SURGICAL TECHNIQUE**
- Operative Surgery and Technique; Postoperative Treatment**
- CHARBONNIER, A. Getting the Patient Out of Bed Early After Abdominal Surgery 468

- OGUCHI C The Influence of Surgical Trauma on the Genesis of Postoperative Pulmonary Complications 476
- SNYDER H E Postoperative Pulmonary Atelectasis A Report of Eleven Cases 480
- FRIMAN DAHL J Postoperative Roentgen Examinations. II Postoperative Pulmonary Emboli 480
- Antiseptic Surgery, Treatment of Wounds and Infections**
- HARRIS H N Experimental Burns. I The Rate of Fluid Shift and Its Relation to the Onset of Shock in Severe Burns 469
- KENZ H The Treatment of Traumatic Wounds and Their Sequelae 470
- ALBERT B Accidents to the Hand and Arm 470
- ARIEL J J, HAMPH B and JONES A F, Jr Researches on Tetanus. III Further Experiments to Prove That Tetanus Toxin Is Not Carried in the Peripheral Nerves to the Central Nervous System 471
- MELFNEY F L and MELFNEY H F Gangrene of the Buttock, Perineum and Scrotum Due to *Indiana* Histolytica. Report of a Case 471
- Anesthesia**
- HILLMAN H The New Divinyl Ether Anesthetic 472
- PHYSICO-CHEMICAL METHODS IN SURGERY**
- Röntgenology**
- MOONEY A C Cholecystography 440
- ENGELKING E Orbithal-mologically Important Roentgen Ray Injuries to the Fetus After Irradiation During Pregnancy 448
- ZACCH S and ROBERTI E A Roentgenological Study of the Topographic and Functional Changes of the Intestine in Pregnancy at Term 449
- LEPACCHIO C Fracture of the Cervical Spine from the Standpoint of Roentgenological Investigation 454
- FRIMAN DAHL J Postoperative X-Ray Examinations. II Postoperative Pulmonary Emboli 469
- CILBERT A, JUNEY R and KADENSA S The Reaction of the Liver and Spleen to Roentgen Irradiation After the Intravenous Injection of Thorotrast 474
- TRIMANO M The Blood Changes Occurring in the Course of Roentgen Therapy with Large Fractionated and Protracted Doses 474
- TEVREFF S and STROPPIANI F The Effects of Irradiation on the Lymph Glands and the Lymphatic Circulation 474
- OVERGAARD K Experimental Studies on the Combined Heat Roentgen Therapy of Malignant Tumors 474
- PICCHIO C Tumors of the Sacrum from the Roentgen Point of View 475
- Miscellaneous**
- COCKSILLER, Y S, and BRAASCH W F Diathermy for Carcinoma of the Bladder 476
- MISCELLANEOUS**
- Clinical Entities—General Physiological Conditions**
- FITCHER M The Etiology of Long Stail and Hereditary Deformities 477
- BERENDES J Granuloma Gangraenescens 477
- MUNSTONFRY H The Histogenesis of Basal Cell Epithelioma 477
- FAIRLY W R A Study of the Walker Rat Mammary Carcinoma 256 in 110 and in 140 477
- CASARI A The Defense Reactions of the Body to the Development of Cancer and Their Importance in the Healing Process 477
- HARVEY W F and HAMILTON T D Carcinoma sarcoma 478
- HAMILTON T F and RICHSTEIN E Air Embolism 479
- Ductless Glands**
- KNAGGS R J Acromegaly 479
- FRICHT R, JUNG A and SERIYYA C The Skin in Experimental Hyperparathyroidism. A Study of Experimental Scleroderma 479

BIBLIOGRAPHY

Surgery of the Head and Neck

Head
 Eye
 Ear
 Nose and Sinuses
 Mouth
 Pharynx
 Neck

481
 481
 482
 482
 482
 483
 483

Surgery of the Nervous System

Brain and Its Coverings, Cranial Nerves
 Spinal Cord and Its Coverings
 Peripheral Nerves
 Sympathetic Nerves
 Miscellaneous

483
 484
 484
 484
 484

Surgery of the Thorax

Chest Wall and Breast
 Trachea, Lungs, and Pleura
 Heart and Pericardium
 Esophagus and Mediastinum
 Miscellaneous

485
 485
 486
 486
 486

Surgery of the Abdomen

Abdominal Wall and Peritoneum
 Gastro-Intestinal Tract
 Liver, Gall Bladder, Pancreas, and Spleen
 Miscellaneous

486
 487
 489
 490

Gynecology

Uterus
 Adrenal and Peruterine Conditions
 External Genitalia
 Miscellaneous

490
 490
 491
 491

Obstetrics

Pregnancy and Its Complications
 Labor and Its Complications
 Puerperium and Its Complications
 Newborn
 Miscellaneous

492
 493
 493
 493
 494

Genito-Urinary Surgery

Adrenal, Kidney, and Ureter
 Bladder, Urethra, and Penis
 Genital Organs
 Miscellaneous

494
 495
 495
 496

Surgery of the Bones, Joints, Muscles, Tendons

Conditions of the Bones, Joints, Muscles, Tendons,
 Etc
 Surgery of the Bones, Joints, Muscles, Tendons,
 Etc
 Fractures and Dislocations
 Orthopedics in General

496
 498
 498
 500

Surgery of the Blood and Lymph Systems

Blood Vessels
 Blood, Transfusion
 Reticulo-Endothelial System
 Lymph Glands and Lymphatic Vessels

500
 500
 500
 500

Surgical Technique

Operative Surgery and Technique, Postoperative
 Treatment
 Antiseptic Surgery, Treatment of Wounds and In-
 fections
 Anesthesia

501
 501
 502

Physicochemical Methods in Surgery

Röntgenology
 Radium
 Miscellaneous

502
 503
 503

Miscellaneous

Clinical Entities—General Physiological Conditions
 General Bacterial, Protozoan, and Parasitic Infec-
 tions
 Ductless Glands

503
 504
 504

AUTHORS OF ARTICLES ABSTRACTED

- Abel J J 471
 Albert R 470
 Allen A W 441
 Ameuille F 456
 Aynesworth K H 441
 Birdy M 436
 Bellini A 454
 Berendes J 476
 Bergstrand H 412
 Bernabeo C 459
 Bernabeo V 465
 Berutti E 446
 Bianchi M 459
 Blum L 411
 Braasch W F 456
 Bratrud A F 438
 Brews A 452
 Brocard H 436
 Broccard R 459
 Browder J 456
 Brown G E 466
 Bugyi I 403
 Burton H J 417
 Cameron J A M 427
 Canini A 462
 Caspani W 477
 Charbonnier A 468
 Chavannaz J 445
 Chen H I 459
 Chassagnon A 433
 Counseller V S 456
 Coutville C B 431
 Crousse k 444
 Cuper 438
 Cutler E C 420
 Cutler M 458
 Darrach W 461
 Del Torto J 463
 Derscheid G 436
 DeVeer J A 456
 D'Harcourt J 459
 D'Harcourt M 459
 Dunlop J 461
 Dupont A 444
 Eagleton W F 456
 Earle W R 477
 Edwards F A 465
 Engelking I 443
 Eschbacher P J 461
 Escut M 410
 Feiner D 452
 Fischer F 432
 Fitcher S M 476
 Fletcher C 435
 Foley F L B 455
 Fox G W 437
 Fried P 467
 Frimann Dahl J 469
 Fuss H 439
 Garcia D E 412
 Geschlechter C F 41
 Gihlerd G F 450
 Gilbert R 474
 Gold L 440
 Goldsmith G A 466
 Grant O 457
 Greaves R A 426
 Hamilton C L 479
 Hamilton T D 478
 Hampel B 471
 Harkins H N 469
 Harvey W F 478
 Heine L H 427
 Hinman F 458
 Hoess H 457
 Hofmann A 420
 Howarth W 428
 Huet P C 430
 Jaksy J 453
 Joel W 465
 Jonas A P Jr 41
 Junot P 474
 Jung A 430
 Kadruka S 474
 Kahler A R 427
 Kaufmann C 446
 Keyser L D 453
 Kullian H 472
 Knaggs R L 420
 Kristensen B 450
 Kulcsar F 451
 Kurz H 40
 Kurz F 467
 Lanzillo F 437
 Layton T B 428
 Lemoine J M 436
 Lerche R 480
 Lewis L 439
 Lillie O R 437
 Lloyd D 466
 Lorenzetti F 450
 Lupacchino G 464
 MacCreedy P B 438
 Maunier F 462
 Marucci G 454
 McCaughan J M 443
 McCord J R 449
 McMurray T P 460
 Melency F L 471
 Melency H F 471
 Merg C M 459
 Mills G P 464
 Montgomery H 476
 Mooney A C 440
 Moratti A 440
 Nielsen J M 451
 Novara L 465
 O'Brien C S 427
 Ogawa G 468
 Olivecrona H 43
 Overgaard K 474
 Orr S E 458
 Paghan M 448
 Picchio C 47
 Poole W H 451
 Powell T O 458
 Putzu F 456
 Radulesco A D 462
 Reeb 449
 Kobecchi E 448
 Robinson M R 444
 Romani A 454
 Rosenberg W 457
 Rothstein E 479
 Russell H (B) 45
 Rutishauser E 459
 Salameo Castillón 451
 Serib C 434
 Sgroso J A 453
 Smith F 428
 Snyder H F 469
 Spaulding H V 401
 Steppani F 474
 S. T. L. O 440
 Sureyya C 480
 Tenell S 474
 Timpano M 41
 Torracca L 432
 Toussaint P 455
 Trouser J 456
 Uhle C A W 455
 Usua 451
 Väyrynen V 449
 Veau V 459
 Wallace R H 441
 Watts J W 455
 Wertheimer P 407
 Westermann J J 459
 Whittle C H 457
 Yates A L 428
 Zorich S 448

INTERNATIONAL ABSTRACT OF SURGERY

NOVEMBER, 1935

COLLECTIVE REVIEW

THE EARLY HISTORY OF PERMANENT EXTENSION IN THE TREATMENT OF FRACTURES

LESTER BLUM, M D, NEW YORK, N. Y.

EVEN if one could accept the nebulous personalities of classical mythology as authentic historical personages, there would still be some doubt in assigning to Procrustes the honor of having first used an extension apparatus. This citizen of Eleusis was addicted to the inhospitable habit of applying traction to the extremities of all the unsuspecting occupants of a certain couch in his home. While the procedure was rather primitive in both design and technique, there was, nevertheless, something distinctly modern about its promiscuous use in so great a variety of cases.

The necessity of employing traction in the immediate reduction of fractures, and the advantageous use of retentive splints of linen and wax, of pasteboard, gum arabic, and moulded wood, seem to have been well recognized among the ancient Coptic surgeons. In the Edwin Smith surgical papyrus, which Professor Breasted has assigned to the era 3000-2500 B.C., there appears this statement in the description of Case 36, a case of fractured humerus.

Thou shouldst place him prostrate on his back, with something folded between his two shoulder-blades, thou shouldst spread out with his two shoulders, in order to stretch apart his upper arm until that break falls into its place. Thou shouldst make for him two splints. (1)

However, the first authoritative account of permanent extension is to be found in the treatise of Hippocrates (2). This work contains a logical,

precise discussion of the treatment of fractures with admonitions the repetition of which constitutes a considerable share of our contemporary literature in this field of surgery. There is described a traction bed which Hippocrates employed not only for immediate reduction but also for permanent extension (Fig. 1). This device consisted of a padded wooden frame to which were attached levers, rollers, and peg supports so arranged as to apply the desired force most comfortably and efficiently. Well-padded strips of cloth and leather thongs were used to transmit the pull.

There is, also, a detailed description of an internal fixation, permanent extension splint for use in oblique or compounded fractures of both bones of the leg. The expansile force of four strips of elastic wood is transmitted through well-padded knee and ankle cuffs to restore and preserve the contour of the injured extremity (Fig. 2). Hippocrates says:

If these things be properly contrived they should occasion a proper and equable extension in a straight line, without giving any pain to the wound.

However, he leaves the following warning for bunglers:

And all other mechanical contrivances should either be properly done, or not be had recourse to at all, for it is a disgraceful and awkward thing to use mechanical means in an unmechanical way.



Fig. 1. Frame of Hippocrates (From Littre Oeuvres d'Hippocrate)

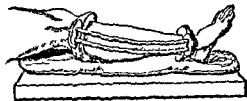


Fig. 2. Leg splint of Hippocrates (From Littre Oeuvres d'Hippocrate)

It would appear that the bountiful opportunities of the military surgeon of the Roman empire would lead to a further development of the principles and procedure of extension. Judging from the records left by Aurelius Cornelius Celsus who compiled his eight books on medicine in the dawn of the Christian Era this was distinctly not the case. Nevertheless Celsus must have enjoyed a considerable experience in traumatic surgery since he repeatedly emphasizes the necessity for immediate reduction and meticulous extension as the primary procedure. In discussing fractures of long bones he says:

Therefore if this (i.e., fracture with shortening of the extremity) has been discovered it behooves immediately to extend that limb if that has been omitted in the first days, inflammation arises (3).

Only Percival Pott and Mursinna in the eighteenth century and Lucas Championniere in the nineteenth have refused to grant the importance of this dictum.

The first treatise exclusively dedicated to the treatment of fractures by mechanical means

appears to have been the work of Orbasius (325-403 A.D.) of the early Byzantine school. The first edition of this book in a modern language (French) was prepared in the sixteenth century. The illustrations accompanying this edition present a refinement of detail which is distinctly apocryphal and not consonant with the clinical development of those early times. There remains, however, a clear, concise text to establish the importance of this contribution (4).

Orbasius describes the plinthum of Nileus which was a screw traction lever set in a narrow wooden bed resembling a glossoconium for use in the treatment of lower extremity fractures. There is portrayed also an elaborate multiple pulley system, a technical form which reached its greatest development in the later Byzantine school and except for its frequent use by Pare seems to have been neglected until a decade ago when the late Dr. Russell developed his well known form of traction.

Paulus Aegineta (625-690 A.D.), recognized as the outstanding surgeon of his time, contributed nothing of value to the treatment of fractures (5). In fact, the very meagerness of his discussion marks one of the nadirs of surgical regression which serve to accentuate the high degree of development both preceding and following and to give a characteristic cyclic form to its historical development.

In the first half of the tenth century, a Byzantine scholar named Nicetas compiled by royal command of the Emperor Constantine Porphyrogenitus, a surgical document which epitomized the clinical development of the period. It reflected the influence of Galen and Rhazes and admitted much of what was to follow. In 1554 Guido Guidi, Professor of Medicine in the College de France translated this work into Latin and retained several distinguished artists to illustrate the text (6). The result is a remarkable portrayal that commands the respect of the surgeon as well as that of the artist. There are one hundred and ten plates demonstrating a profusion of ingenious extension devices. While the mechanical forms and their method of application are very evidently based on the contributions of Hippocrates and Orbasius there are numerous additions and refinements.

The Byzantines favored the screw or the windlass as the origin of the tractive force and were inclined to the employment of multiple pulley systems. In Fig. 3, the patient, with a fracture in the lower leg is shown asleep on an improved form of Hippocratic traction frame. The attitude of the patient, the side posts, and the lateral

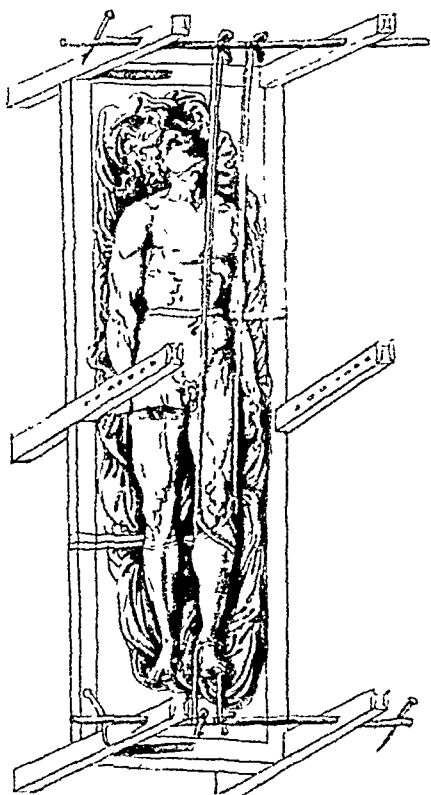


Fig 3 Extension frame, tenth century (From Collection de Chirurgiens Grècs, Bibliothèque Nationale, le manuscrit latin 6866)

straps to prevent side-slipping indicate that this is a permanent extension set-up. Fig 4 represents a form of glossocomium in which, through the ingenious use of an additional pulley, counter-extension is simultaneously effected by the tractive force. Fig 5 not only demonstrates an efficient method for the reduction of fractures in the lower half of the shaft of the humerus, but shows recognition by the Byzantine surgeon of the advantage of flexing the elbow during this procedure.

During the twelfth and thirteenth centuries the treatise of Abulcasis (1013-1106) was the leading surgical text (7). As Abulcasis was greatly influenced by Paulus Aegineta, it is not surprising to find no major mention of permanent extension in his work.

In the latter years of the thirteenth century, Gulielmus de Saliceto (1201-1277) compiled his surgery, the third book of which deals with fractures and dislocations (8). He discussed the

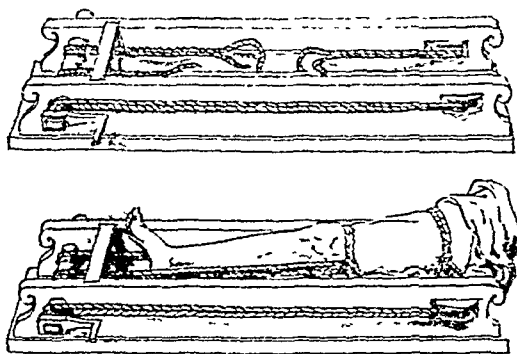


Fig 4 Glossocomium for extension in thigh fractures, tenth century (From Collection de Chirurgiens Grècs, Bibliothèque Nationale, le manuscrit latin 6866)

specific injuries in twenty-nine chapters and laid great stress on whether or not the fracture is compounded. He gave the formula for a retentive plaster with a gum arabic base and mentioned the use of traction in manipulation, but did not discuss permanent extension.

His successor, Guy de Chauliac (1295?-1368), showed a comprehensive knowledge of the classical literature and a characteristic ability to correlate this information with his own observations. In the fifth treatise of his work "Wounds and Fractures" there are two passages that testify to his experience with permanent extension (9). In one, he writes:

It is often possible that a fracture may be equalized by softening the callus, which Avicenna says, as you know; and, for this, also, I have often seen a weight with a pulley useful.

In the seventh chapter, in a discussion on fracture of the thigh, he criticizes various forms of splints, concluding:

With regard to myself, the thigh being bound with long splints to the feet, I sometimes sustain it with the above mentioned means with straw or some other thing, and I attach to the foot a leaden weight, passing the cord over a little pulley so that it will keep the leg in its proper length, and if there is some defect in the equalisation, by pulling little by little it will be rectified.

This statement by Guy de Chauliac is of great significance since it marks the first recognition of permanent extension as a preferential form of treatment in fractures of the shaft of the femur. Its historical interest is enhanced by the fact that it preceded the introduction of plaster of Paris



Fig. 3. Extension in a humerus fracture, tenth century (From Collection de Chirurgiens Grecs Bibliothèque Nationale le manuscrit latin 6866)

for use in retention by several hundred years since, according to Malgaigne (1), gypsum was first used in 1814 by Hendriksq and was popularized by Keyl of Berlin around 1828. The present widely accepted view that the traction method is a newer procedure taking the place of the traditional plaster therefore appears to be highly anachronistic.

Ambrose Pare (1510-1590) did not go so far as to advocate permanent extension as a routine form of treatment but in considering fracture of the shaft of the femur he said:

Instead of this glossocommum you may make use of my pulley for Hippocrates in this bone when it is broken doth approve of extension so great that although by the greatness of the extension the ends of the fragments be some what distant asunder, an empty space being left between yet notwithstanding would hee have ligature made. For it is not here as it is in the extensions of other bones whereas the casting about of ligatures keeps the muscles unmoveable but here in the extended thighs the deligation is not of such force as that it may stay and keepe the bones and muscles in that state wherein the surgeon hath placed them. For seeing that the muscles of the thigh are large and strong they overcome the ligation and are not kept under by it (10).

This statement was followed by a detailed account of his own case of compound fracture of the leg which is of absorbing clinical and human interest in that he so cleverly presented both sides of the patient-physician relationship.

Pare's contemporary Fabricius Hildanus (1537-1619) shows his admiration for the great surgeon by the following statement in the treatise on a military chest (11):

For the reducing of Broken Bones, and Dislocations there are several Instruments devised by Hippocrates Orthasius and other Authors set down but I have always found in my practice the instrument of Ambrose Parey which is with a pulley the most convenient.

The variation of interest in fractures among surgeons is exemplified in the huge work of Jacques Guillemeau appearing in 1612 which accords but small space to this branch of surgery (12). Guillemeau groups fractures among the unnatural tumors and presents the diagnosis and the treatment in outline form. His only mention of extension is found in this perfunctory statement:

Tirant le membre de part et d'autre esgalement sans user de violence, usant s'il est besoin de Machines propres.

It is difficult to realize that only one hundred years later there appeared the "Treatise of the Diseases of the Bones" by Jean-Louis Petit (1674-1750). This masterpiece, besides containing an unsurpassed discussion of the mechanism and treatment of luxation, presents a remarkable elaboration of the principles of extension (13). In the eleventh chapter, Petit describes his method of treating oblique fractures of the femur with both splints and traction. He effected the latter by the use of leather thongs applied just above the femoral condyles and fastened to the foot of the bed. Counter-extension was obtained by means of a sheet passed by the crotch and fastened on each side to the head of the bed. In addition, a strap was fastened just above the malleoli to be used alternately for traction when the thigh strap irritated the skin.

Petit describes in detail the arrangement of the fracture bed. He used a perforated mattress, as did Paré, to make care of the patient easier as well as to prevent decubitus ulcers. He employed the overhead rope to assist the patient in moving about the bed, and a padded plank for the normal foot to rest against. He and his contemporary, Laurens Verduc, were the first to use a supportive foot-piece on the sole of the affected extremity. In his treatise on bandaging, Verduc says

I advise you to make use of a sole as much as you can in all fractures of the thigh, the leg, and the rotula. The sole should be of Pastebord, if you can have it, or at a distance from great Towns, where that can't be had, of some old Sole of a Shooe. At the end of the Sole, you must put a ribbon about three quarters long, to be ty'd to the first upper string that ties on the Junks. . . This Ribbon is of great use, it keeps the sole in good order, and serves as a stay and security to the leg, for nothing hinders the union of the Bones more than Motion (14).

However, Petit's major contribution, so far as the technique of permanent extension is concerned, was his double-inclined plane which marked the first association of suspension with traction. This was adjustable and rested on the mattress, thus greatly resembling the apparatus devised by Braun one hundred and fifty years later (Fig 6). Petit's clinical wisdom and critical faculty can be best appreciated from his opening remarks in the chapter on fracture of the neck of the femur which, incidentally, he clearly differentiated from dislocation and epiphyseal separation:

No man need be ashamed of his faults but when he has neglected being instructed, a sincere

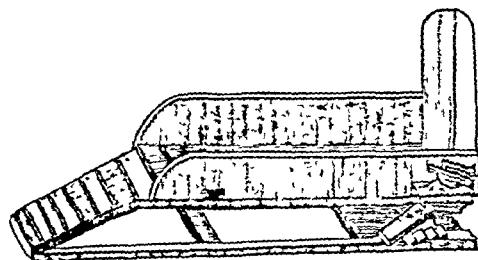


Fig 6 Suspension splint of Petit (From Petit Treatise of the Diseases of the Bones)

confession accompany'd with the circumstances, is often more useful than such Discourses as are dictated by self-love which serve only to render a book as tedious for its length, as the little worth of the Work. We shou'd perhaps have fewer volumes to read, but more obligations to the authors, if instead of only relating their successful practise, they had only treated of their faults (13).

This paragraph remains as a fitting introduction to any discourse on the treatment of fractures of the neck of the femur.

According to Hippocrates, as has been stated, the surgeon treating fractures will find his results improved by an appreciation of the mechanical factors involved. This implies not only recognition of the elementary laws of physics, but also an interest in the various contrivances that constitute the apparatus so essential in this clinical field. John Aitkin who was surgical lecturer at the University of Edinburgh from 1779 until his death in 1790, possessed these attributes in the highest degree. His essays (15) are composed in that even, lucid, prose style which we would expect of a contemporary of Dr Johnson. Aitkin shows a distinct predilection for the use of mechanical devices in the treatment of fractures throughout the entire course of the individual case. In a separate chapter in his "Essays on Fractures and Luxations" he urges the immediate immobilization of broken limbs at the site of accident, without removal of the clothing or other disturbance of the patient. He translates a communication of La Faye, a contemporary French surgeon, in this fashion:

No spectacle can be more affecting than the transportation of a number of wounded officers and soldiers from the trench or field of battle to a place for dressing them. I have always, in such conjectures, been much touched with the exquisite agonies caused by the motion of the persons employed to place the wounded in

proper carriages it is impossible that they can be driven for some leagues or even half a league, without suffering the most acute pains which, in spite of all the bandaging about the fractures at every movement, must displace the fragments and make them grate on one another, thus irritating parts extremely sensible and delicate. The splintered fragments, pricking and tearing the muscles nerves etc already wounded augment the swelling inflammation and effusions (15)

Aitkin advocated immediate application of his leather padded, adjustable, steel extension splints, so bringing permanent extension to the very scene of the accident and establishing the historical precedent for the aphorism "splint 'em where they lie." His leg splint (Fig. 7, right) is reminiscent of Hippocrates to whom he credits its origin. The thigh splint (Fig. 7 left) functions on the principle of extensibility of the steel strips, the force being delivered through the leather cuffs.

Aitkin gives due consideration to the devices of the ancients and to those of his contemporaries. He describes the apparatus of a Mr. Gooch of Norwich, which was a permanent extension appliance employing screw traction or rather distraction, transmitted through leather rings. This is of particular interest at the present day since a spreading tendency to employ pin fixation in both fragments of long bone fractures necessitates the use of this type of splint. In the after care of fractures of the lower extremities Aitkin employed a caliper splint with an adjustable knee

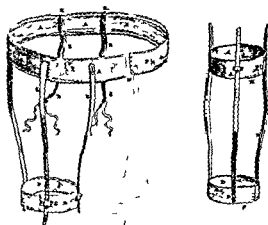


Fig. 7 Extension splints of Aitkin (From Aitkin Essays on Fractures and Luxations)

piece (Fig. 8). He supulates that its proper application will transmit the body weight to the pubic bone, thereby protecting the callus from too great a strain during the early weeks of ambulation.

Percival Pott (1713-1783), whose name in contrast to that of Aitkin is perpetuated through one of the eponymic tricks of surgical fate in association with fracture dislocations about the ankle joint did as much to hinder the development of extensors as Aitkin did to further it. In seeking to establish traumatic surgery as a clinical entity, he said:

No part of surgery is thought to be so easy to understand, as that which relates to fractures and dislocations. Even the most inept and least instructed practitioner deems himself perfectly qualified to fulfill this part of the chirurgic art and the majority even of these are affronted by an offer of instruction on a subject with which they think themselves already so well acquainted (16)

However, he strongly advocated resting the fractured extremity, after minimal manipulation, in a

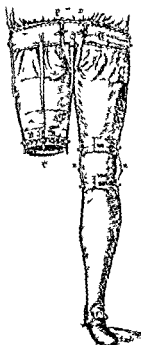


Fig. 8 Caliper splint of Aitkin (From Aitkin Essays on Several Important Subjects in Surgery)

flexed position on a soft pillow, on the assumption that in this way the muscles were most relaxed. Since displacement is due to muscle tension, he contended that this was the most efficient method of retention. The very fervor and probability of his argument suggest that permanent extension must have been widely used at the time. His influence in England was certainly manifest for decades, and it was not until Astley Cooper re-introduced the advanced ideas of the French school that it finally disappeared.

The first of the great French school was Pierre Joseph Desault (1724-1795). Desault introduced the concept of axis-traction, writing:

All kinds of apparatus for fractures being nothing but resistances opposed by art to the powers which produce displacement, it follows, that they should all act in directions precisely opposed to the directions of those powers. (17)

In discussing fractures of the shaft of the femur, he adds:

Hence, it follows in general, that coaptation is here a feeble assistant to extension, that, if it renders any service, it is only in cases of displacement laterally, or, in the direction of the cross diameter of the bone; and, that it is by giving the proper direction to extension, by managing it according to the disposition of the muscles, and by knowing when to augment and when to slacken it, that the fragments are brought into regular contact.

Desault severely criticized Pott's ideas on both clinical and theoretical grounds. He pointed out that the synergistic action of muscles requires

tautness of one group if the antagonist is relaxed, and maintained that the muscle imbalance displacing the fragments can be overcome only by extension. For fracture of the femoral shaft Desault preferred traction almost exclusively. For this purpose he invented a permanent extension splint which was the first of its kind (Fig. 6). He secured traction through a foot-piece by means of a windlass arrangement which neatly fitted in a groove in the side of the device. This was the first splint to be devised for the lower extremity in which counter extension was obtained by pressure of the proximal end against the ischial tuberosity.

Desault's successor at La Charité was Alexis Boyer (1757-1833), who formulated four basic laws of extension:

- I - To apply the extending force on the parts of the members inferior and superior to the fractured bone.
- II - To act on as great a superficies as possible, the effect which external causes have on our bodies is small in proportion to the extent of the surfaces on which they act, because the action is then supported by a greater number of parts.
- III - To give to the extending power a direction parallel to the axis of the bone.
- IV - The extension ought to be as gradual as possible, operating slowly, and by degrees. (18)

Boyer also improved some details of Desault's apparatus.

It was Sir Astley Cooper (1768-1841) who re-established permanent extension in England. In

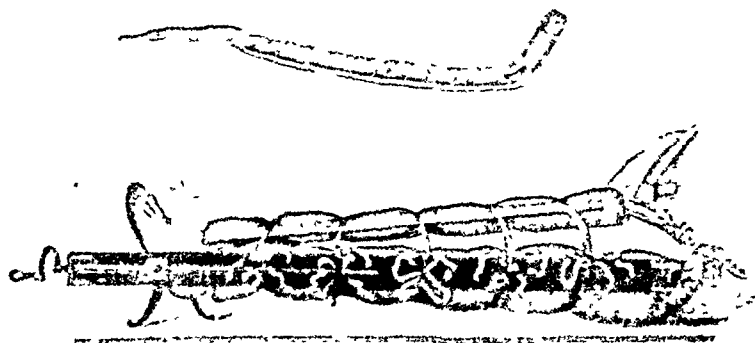


Fig. 6. Splint of Desault. (From Desault: *A Treatise on Fractures, Luxations, and Other Affections of Bones*.)

his treatise on this subject he shows the influence of John Hunter both by his conscious striving for an objective attitude and his constant correlation of experimental findings with clinical observations. He was well acquainted with the various traction devices of the time and favored the use of the double inclined plane in lower extremity extension.

In view of the present popularity of well leg traction the origin of which is a matter of frequent dispute it is interesting to note this paragraph in Coopers' description of the various methods used at the time in treating fracture of the neck of the femur:

In a third method, the patient has been placed in bed with both limbs extended to the utmost possible degree and then the two feet have been bound together with a roller passed from the foot on the injured side under the sound foot so as to make one limb steadily preserve the extension of the other. This may also be effected by an iron plate affixed to the shoe on the sound foot with a screw passed through a hole in the plate and having a band fixed to the other foot which may be tightened by turning the screw and the foot by this means be kept constantly extended (10).

The widespread use of extension on the Continent in the early years of the nineteenth century can be best appreciated by perusing the comments of Baron Larrey (1766-1842) the great military surgeon of the Napoleonic era and the founder of the flying ambulance system. In a discussion of the proper treatment of fracture of the neck of the femur he writes:

It is with this intention that bandages or apparatuses for producing permanent extension of different forms and of a mechanism more or less complicated have been invented. By these means instead of assisting nature in its work of reorganization the object is rendered more remote the evil aggravated and some times rendered incurable or the cure is retarded a circumstance which is not exempt from serious consequences. From the time of Hippocrates and Avicenna until the present day a prodigious number of apparatuses of permanent extension have been employed from the application of which there can be no doubt that there has never been any benefit derived (20).

This opinion will in essence be both repeated and contested at many surgical meetings during the coming years.

The 'modern era in fracture surgery began with Joseph François Malgaigne (1806-1863). Malgaigne's talents as both historian and surgeon are evident in his 'Traité des Fractures et des Luxations' (21). This comprehensive work summed up all that had gone before and by its detailed elaboration of the principles and procedures of traumatic surgery served as a foundation for the contributions of Lister and Thomas and Steinmann in this field.

It is no exaggeration to state that the present development of the technique of permanent extension does not hinder an obvious correlation between some recent trends and some of the contributions that have been mentioned. It is for this reason that any review in the nature of the present sketch unavoidably touches on matters of clinical controversy even though the original presentation may have taken place centuries ago. Certainly the even warmth of these smoldering embers of age old argument is preferable at times to a nostalgic poking about among the cinders of abandoned fires that once lit the road of surgical progress.

BIBLIOGRAPHY

1. The Edwin Smith Surgical Papyrus. James Henry Breasted. Chicago 1930.
2. The Genuine Works of Hippocrates. Translated from the Greek by Francis Adams. New York Wm. Wood Co. 1831.
3. The Eight Books on Medicine of A. C. Celsus. With a literal and interlinear translation by J. W. Underwood. London 1842.
4. Les Vaccines et Remèdes Vénérables de la Médecine et Chirurgie le tout traduit fidèlement du Grec et du Latin en François à Lyon par Guillaume Rouillé 1555.
5. The Medical Works of Paulus Aegineta. Translated by Francis Adams. Sydenham Society London.
6. Collection de Chirurgenen Crecs. Bibliothèque Nationale le manuscrit latin 686 Paris 1544.
7. La Chirurgie d'Alvicesus. Traduite par Lucien Leclerc. Paris J. B. Baillière 1861.
8. La Chirurgie de Vassre et Guillaume de Salicet. Imprimé en l'université de Paris l'an 1505 pour Coiffroy de Marneul et Durant l'ortier.
9. On Wounds and Fractures. Cuy de C. Paulus. Translated by W. A. Prentiss. Chicago 1913.
10. The Works of that famous Chirurgian Aretaeus. Translated by T. Johnson. London 1732.
11. Cista Militarum or a Military Chest Furnished for the use of the Army. Written in Latin by Celsus Aulus Cornelius Celsus. Englished for Publick Benefit London 1695.
12. Les Oeuvres de Chirurgie de Jacques Cullen. Paris Nicolas Burn 1812.
13. A Treatise of the Diseases of the Bones. Translated from the French of Jean Louis Petit. London T. Woodward 1726.
14. A Treatise on Bandages. Translated from the French of Laurent Verdus. London J. and B. 1711.

13. *Lectures on Fractures and Luxations*. John Arden. For Jos. T. Coddell, 1798.
Lectures on Several Important Subjects in Surgery. John Arden. London: L. and C. Dilly, 1774.
14. *The Clinical Works of Percival Pott*. Edited by Sir James Earle. London, 1828.
15. *A Treatise on Fractures, Luxations, and Other Affections of Bones*. P. J. Delpech. Edited by N. Bichat. Translated by C. Caldwell. Philadelphia: Try and Knickerbocker, 1827.
16. *The Lectures of Boyer upon Diseases of the Bones*. Arranged into a systematic treatise by A. Richter and Translated by M. Farrell. London: J. and W. Smith, 1807.
17. *A Treatise on Dislocated Fractures of the Joints*. Sir Astley Cooper. London, 1832.
18. *Surgery Lectures*. Simon D. J. Letroy. Translated by John Revere. Baltimore, 1823.
19. *Traité des Fractures et des Luxations*. J. L. Malgaigne. Paris: J. B. Baillière, 1847.

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

EYE

Fagleton W. P. Exophthalmos from Surgical Diseases, Especially as to Involvement of the Protective Retrobulbar Space. *Arch Ophth*, 1935 24 1

After reviewing the anatomy of the retrobulbar space and the characteristics of infection in this space the author describes the unique ophthalmoscopic picture of infection confined to this space reports seventeen cases and takes up the operative treatment of such infections. He then discusses pulsating exophthalmos due to arteriovenous communications within the cranium exophthalmos from fractures and tumors of the orbital walls meningio-blastomas above the orbital roof as a cause of exophthalmos and exophthalmos of hyperthyroidism which is due to overfilling of the retrobulbar space by blood from distention of the veins.

PALL STARR MD

Greeves R. A. Some Aspects of Glaucoma. *Irish J. Med. Sc.* 1935 No 3143 241

Normal intra-ocular tension depends upon a balance between the intake and outflow of intra-ocular fluid. The manner in which the fluid is derived from the blood—whether this occurs by filtration secretion or dialysis—has not yet been determined. The author favors the secretion theory.

In discussing the diagnosis of glaucoma Greeves says that a tonometer reading alone without other evidence is insufficient proof of the presence of the condition. The diagnosis of glaucoma should be made only after careful consideration of all factors in the given case. It is then necessary to decide whether the glaucoma is primary or secondary. In cases such as those of intra-bombé anterior synechia dislocated lens and traumatic cataract this is not difficult. In glaucoma due to serous iridocyclitis it is not so simple. In the treatment of this condition the depth of the anterior chamber is of prime importance. If the anterior chamber is deep a mydriatic may be used with benefit and impunity but if the anterior chamber is shallow myotics should be employed. Claustran is sometimes of much more value than atropin. In cases of secondary glaucoma with complicating serous iridocyclitis in which the tension fails to respond to any drug paracentesis repeated if necessary may be beneficial especially if the chamber is deep. While any filtering scar may be closed by inflammatory fibrous tissue the author believes a trephine opening is the most likely to remain open regardless of its size.

Persistent secondary glaucoma due to vitreous in the anterior chamber is very difficult to treat. Cyclodialysis may be the most successful. In needing operations disturbance of the vitreous should be avoided as much as possible and the anterior chamber should never be destroyed. Acute glaucoma in one eye preceded by loss of sight is very suggestive of choroidal sarcoma. This must be differentiated from glaucoma due to thrombosis of the central retinal vein. In both conditions enucleation of the eye is usually necessary.

The author distinguishes two types of primary glaucoma: (1) the acute, subacute, and chronic subacute and (2) the chronic simple. Of the first type are the cases of patients who complain of pain, rainbow colored halos and misty vision and of the second type those of patients who experience nothing but gradual loss of vision and field. In most cases of acute primary glaucoma there is shallowing of the anterior chamber. In congestive cases with haziness of the cornea and dilation of the pupil the author instills 1 per cent eserine in castor oil at half hour intervals applies leeches to the temple uses heat and administers a saline purgative. He may continue this treatment as long as ten days or two weeks before the operation. He regards iridectomy for acute congestive glaucoma as the most difficult intra-ocular operation. In the congestive state the trephining operation is contra-indicated because it is impossible to avoid tearing the congested and bleeding conjunctiva and the inelastic iris pillars may remain in the wound. When the congestion is reduced the trephining operation is the procedure of choice.

The ultimate fate of an eye with chronic simple glaucoma is variable but blindness occurs eventually in all cases. Scotomas in the field are surprisingly alike in all forms of glaucoma; central loss always precedes loss of the nasal field. The very earliest sign is enlargement of the blind spot upward. The author emphasizes that a diagnosis of chronic simple glaucoma should never be made and operation should never be undertaken without evidence of cupping and a field defect. In chronic simple glaucoma iridectomy alone is useless. Some form of permanent filtration operation is imperative. The author is inclined to believe that when the field loss is large the optic nerve is so damaged that vision may deteriorate further even if operation restores permanent normal tension. He has a prejudice against iridencleisis and cyclodialysis.

Operating on the other eye yet apparently unaffected eye in chronic simple glaucoma is unjustified.

In cases of acute glaucoma, operation is safe if the other eye has a definitely shallow chamber.

LESLIE L. MCCOY, M D

Kahler, A. R., and O'Brien, C. S.: Disciform Degeneration of the Macula. *Arch Ophthalm*, 1935, 13-937

Disciform degeneration of the macula is a rather common and usually bilateral senile disease. It is characterized by an elevated mass in the macular region with deep hemorrhages, pigmentary changes, and frequently white punctate areas of degeneration in the surrounding fundus.

Sclerosis of the choroidal vessels with generalized vascular disease is believed to cause metaplasia and hyperplasia of the pigment epithelium with the formation of a mass resembling connective tissue between the choroid and retina. Loss of vision invariably results. It occurs rather rapidly and progresses. After a short time only large objects are visible. The patient may note a central scotoma. Metamorphopsia and occasionally photopsia may be present early. As a rule the diagnosis is possible only when the lesion is elevated.

A yellowish white or gray opaque mass appears beneath the retina. This mass may be elevated only very slightly or up to 5 or 6 diopters. It may be smaller than, or many times the size of, the nerve head. The surface often shows localized depressions here and there. In rare instances the mass appears translucent. Sometimes there seems to be a transparent fluid between the clear overlying retina and the mass. The prognosis for vision is poor. Improvement in vision is rare.

In the differential diagnosis, choroidal sarcoma, Coats' disease, and conglomerate tubercle must be ruled out.

LESLIE L. MCCOY, M D

NOSE AND SINUSES

Cameron, J. A. M.: An Investigation of the Part Played by Allergy or Sensitization as a Factor in Predisposing the Mucous Membrane of the Nasal Passages and the Paranasal Sinuses to Infection and Its Bearing upon the Treatment of Disease of These Cavities. *J Laryngol & Otol*, 1935, 50-493

Chief among the findings of histological examination of mucous membrane from the nose and paranasal sinuses in cases of nasal and sinus infection are an infiltration of eosinophile and plasma cells and edema of the matrix. The eosinophiles are of two types—bilobed eosinophiles with coarse granules and mononuclear eosinophiles with much finer granules. The former are more abundant in acute lesions and the latter in chronic lesions. It is suggested that these cells neutralize some substance liberated in allergy or are a chemotactic response to its stimulus. There is no evidence that the changes are due to micro-organisms.

Whether allergy prepares the nasal mucous membrane for infection by micro-organisms is difficult to

determine. So far as can be judged from statistics, it has no marked effect.

In treatment, both the allergic and the local nasal aspects must be considered.

The author briefly outlines methods of desensitization.

In conclusion he suggests that allergic manifestations may have a common genesis in some form of metabolic poisoning which is usually amenable to detoxication.

JAMES C. BRASWELL, M D

Heine, L. H.: Malignant Tumors of the Nasopharynx. *Arch Otolaryngol*, 1935, 22-51

Heine states that the nasopharynx constitutes a rather fertile soil for the development of various types of neoplasm.

When any abnormality in the appearance of the tissue in this region is noted biopsy should be done.

Tumors arising from the different kinds of epithelial covering over the vault of the nasopharynx are different both pathologically and clinically from most other epithelial tumors and apparently should have a separate classification.

Reticular-cell sarcoma occurs in the nasopharynx and should not be confused with lymphoblastoma.

In the cases of malignant tumor of the nasopharynx reviewed by the author, the results of irradiation therapy appeared favorable, but the follow-up was limited to a period too short for conclusions as to their permanency.

JAMES C. BRASWELL, M D

Geschickter, C. F.: Tumors of the Nasal and Paranasal Cavities. *Am J Cancer*, 1935, 24-637

The majority of carcinomas of the nose arise in the region of the middle turbinate, at the embryonic site of the outpouching of the sinuses, and are epidermal in type. In the nasopharynx, and more rarely in the nose and antrum, malignant epidermal cells from the mucous membrane and interspersed lymphoid tissue form a variety of lympho-epithelioma. For this reason epidermal carcinomas are divided into two major groups on the basis of their clinical pathological features. The larger group are the squamous-cell or transitional-cell cancers and the smaller group the lympho-epitheliomas.

Probably because slowly growing tumors of this region remain asymptomatic, epithelial tumors of a benign character are seldom reported. Among the benign epithelial growths of the nasal and paranasal cavities are the so-called hard papillomas, adenomas, and cystadenomas and the rarely aberrant salivary tumors. Osteomas, angiomas, plasmacytomas, and benign and malignant connective-tissue tumors are less frequent than epithelial tumors.

JAMES C. BRASWELL, M D

Burman, H. J.: Sinusitis in Children. *Laryngoscope*, 1935, 45-440

The treatment of sinusitis in children is largely a medical rather than a surgical problem. Children with chronic sinusitis are usually undernourished.

and underweight and suffer from constipation and loss of appetite.

In briefly reviewing the embryology and development of the sinuses the author states that the ethmoidal labyrinth is the only one present at birth and the only sinus to cause trouble before the age of two years.

In diagnosing a sinus condition the rhinologist should cleanse the nose thoroughly of all secretions using suction if necessary. Congestion, edema, hypertrophy and a purulent discharge are indicative of sinus disease. Headache and tenderness on pressure are of great diagnostic significance. Sinus infection can be definitely ruled out by roentgen examination.

The child with sinusitis should be put to bed given a mild cathartic and Dover's powders and then given a hot bath. Two minims of a 1:1000 solution of atropine should be administered every two hours until the nose is dry.

In the office Burman uses a 0.5 per cent solution of cocaine in oil as a spray and cleanses the nose of secretions by suction. Sometimes he irrigates the antra under local anesthesia.

Operative treatment is indicated only occasionally and should be conservative. Intranasal surgery on the ethmoids should never be done in the cases of children. Partial submucous resection is occasionally necessary.

The general supportive measures consist of the administration of calcium gluconate, vitamin therapy, and the use of autogenous vaccines.

JOHN F. DETER MD

Smith F Yates A L Layton T B Howarth W Russell H G B and Others. Discussion on the Treatment of Chronic Infection of the Nasal Accessory Sinuses. The Management of Chronic Sinus Disease—Conservative or Radical? *Proc Roy Soc Med Lond* 1935; 28: 663.

SMITH states that the generally accepted management of chronic sinus disease is unsatisfactory. He urges that the surgical intervention which produces the desired result be designated not as radical but as complete. He states that in the past the rhinologist too frequently attempted to complete with postoperative treatments in his office what he should have accomplished in the operating room. Smith limits his discussion to the frontal, ethmoid and sphenoid sinuses in which it is impossible to reach all of the involved area by the intranasal approach. He believes it best to approach the sinuses directly in a practically bloodless field under full vision.

The operation he performs is done under local anesthesia through an incision at the inner canthus of the affected side. Bleeding is prevented by ligation of the superior palpebral vessels, posterior ethmoidal vessels and sphenopalatine vessels as they are reached. The technique and special instruments used for each step of the complete operation are described. Chisels and mallets find no place in this technique.

The postoperative reactions are minor. They usually consist of headache of a few days duration. There is no pain. Diplopia may occur for a few days but in none of more than 500 cases was it permanent.

YATES states that in his experience the type of secretion present has a great deal to do with the end result of treatment. He finds that in cases in which organisms are free in the discharge (i.e. not intracellular) conservative measures give better results than operative measures. He states that obstructive sinusitis can be distinguished from open sinusitis by determining the bactericidal power of the nasal mucus. The bactericidal power is high in obstructive sinusitis and low in open sinusitis. Yates describes an ingenious vacuum douche method but cautions that its use is contra-indicated in all acute conditions.

LAYTON states that treatment of suppurative maxillary sinusitis is accomplished by surgical drainage. In some cases an operation to secure permanent drainage is necessary. The treatment of infections of the other sinuses is not so easy. Frontal sinusitis does not occur alone. It is always complicated by ethmoiditis. As clearing up of the stream of pus in the middle meatus from a maxillary sinusitis will remove the inflammation around the opening of the frontonasal duct, the key to fronto-ethmoidal suppuration is the maxillary sinus.

CILL CAREY says that he has adopted the external technique with extremely good results in the case of the ethmoid sinus but the results have been less favorable in the case of the sphenoid and frontal sinuses.

HOWARTH states that he favors the external approach but believes that every effort should be made to conserve the mucous membrane lining especially in the frontal sinus. His greatest difficulty is maintenance of the patency of the new frontonasal duct. Since he has done skin grafting his results have been better.

RUSSELL says that the operation may be employed with advantage in the treatment of anterior sinusitis without bothering about the posterior group at all.

HOWARTH reports that he favors leaving the upper and lower parts of the frontal sinus mucosa in this operation but he has removed all the membrane and cells of the ethmoid.

WATSON WILLIAMS says that the external operation is seldom necessary. Most cases respond to intranasal methods. Of chief importance is conservation of the mucous membrane. A very real objection to the external approach is the patient's aversion to such a procedure unless the condition is sufficiently grave to make life intolerable.

GILLEY says that it is open to doubt whether the majority of patients would submit to such a radical procedure unless it were carried out under general anesthesia.

O'WALLEN likens the cells of the ethmoid to those of the mastoid. He believes that in some of the cases of ethmoiditis in which he performed an

intranasal operation the external operation became necessary later because some of the cells escaped him in the intranasal operation

JAMES C. BEASWELL, M.D.

MOUTH

Veau, V.: Harelip. A Theory Regarding the Primary Malformation (*Bei der h. v. Hypothèse sur la malformation initiale*) *Ann. d'otol. laryng.* 1935, 12: 383.

According to the classical theory advanced by Coste, harelip is due to failure of the fusion between facial processes which should occur when the embryo is 8 or 9 mm long. Veau points out that many clinical facts are difficult to reconcile with this theory. He states that absence of fusion of the processes is a very early and extensive malformation involving bone, muscle and skin, while the arrest of development resulting in simple harelip must occur at a later stage, when the embryo is between 21 and 28 mm in length and muscles appear.

Most difficult to explain are the cases in which a soft-tissue bridge is found across a complete cleft. Veau observed such a bridge in 104 of 470 cases of complete unilateral harelip and 80 of 180 cases of complete bilateral harelip. He regards it as unlikely that such bridges represent secondary adhesions. Sometimes the bridge is very strong and sometimes it is filiform. It causes a curve in the axis of the vomer and intermaxillary bone. Often it ruptures before birth and occasionally soon after birth. Veau examined and photographed a bridge in an infant five days old. Six weeks later the bridge separated spontaneously. Frequently only a small tubercle is found at the former location of such a bridge.

The clinical facts seem to indicate the existence of a primary malformation which gives way before a disrupting force as the fetus develops. According to the theory of Fleischmann, which Veau regards as satisfactory, the essential malformation is an epithelial wall which impedes normal development of the mesoderm and the various forms of harelip result from separation of this weak point by the forces of growth.

In a study of the skeletal development in cases of harelip Veau found that the intermaxillary bone exerts a normal forward force, the vomer serving as a fixed point. The development is controlled by the counterforce. If the counterforce is insufficient, harmonious development fails. The vomer and intermaxilla extend forward unchecked or are deviated to one side. The muscles tend to oppose the disrupting force. If the osseous lesion is slight but muscle union is prevented by the epithelial wall, simple harelip results. In some cases the growth of muscle across the cleft is not entirely prevented by the epithelial wall and a bridge is formed on what would otherwise be a complete harelip. In total harelip the epithelial wall has completely prevented union across the defect.

Veau regards this theory as more satisfactory than the classical theory because the latter requires one hypothesis (failure of coalescence of the processes) for total harelip, another (incomplete fusion) for the simple form, and a third (secondary adhesions) for the bridge formation.

THOMAS W. STEVENSON, M.D.

NECK

Hofmann, A.: Infectious Diseases and Hyperthyroidism (*Infektionskrankheiten und Hyperthyreose*) *Wien. Klin. Wochenschr.* 1935, 1: 80.

Careful taking of the history in cases of Basedow's disease or hyperthyroidism very frequently reveals that the thyroid disease was immediately preceded by a febrile condition. In the textbooks, infectious diseases are usually included with such causes of hyperthyroidism as a constitutional predisposition, the use of iodine, and psychic shock, but are mentioned only as an unusual item in the history.

Of the cases of hyperthyroidism seen at the Medical Clinic of the University of Vienna, the occurrence of an infectious or febrile disease either immediately or shortly before the development of the hyperthyroidism is clearly evident from the spontaneous statements of the patient in 41 per cent. It is possible, therefore, that the incidence of such disease would be found higher by routine questioning. Of the cases reviewed, there was a history of sore throat and angina in 22 per cent, of influenza in 19 per cent, of febrile arthritis in 10 per cent, of cholecystitis in 7 per cent, and of pulmonary tuberculosis in 6 per cent. Less frequent febrile conditions were pleurisy, pneumonia, pericarditis, nephritis, thyroiditis, and laryngitis.

These figures, which are based on Basedow material covering a period of twenty years, show that the incidence of infectious diseases preceding Basedow's disease is much higher than was formerly supposed. (MAXIMILIAN HIRSCH) PAUL STARR, M.D.

Cutler, E. C.: Total Thyroidectomy for Heart Disease. *Minnesota Med.* 1935, 18: 421.

The author first presents the physiological arguments for total thyroidectomy in heart disease. He states that postoperatively the metabolic rate is lowered, but controlled easily by 0.15 gm. of thyroid extract daily. The blood cholesterol is raised and the circulation time increased.

In twenty-three cases of cardiac decompensation—fifteen due to valvular disease and eight due to myocardial disease—there were two immediate postoperative deaths and six deaths which occurred later and were unrelated to the operation. In thirty-one cases of angina pectoris there were two immediate postoperative deaths and five deaths which occurred later and were unrelated to operation. Of the fifty-four patients, five developed parathyroid tetany and four sustained injury of the recurrent laryngeal nerve. Notes on the operative technique are given.

The clinical results in the thirty-four patients who have lived more than three months since the operation are as follows: Of twelve with carcinoma decompensation the results are excellent in five, good in four, and fair in three. Of twenty-two with carcinoma pectoris the results are excellent in twelve, good in four, and fair in six.

In animal work the Sutton-Lueth coronary occlusion technique was used. In such a preparation the administration of adrenalin caused pain.

It is thought that the thyroidectomy may interfere with the patient's sensitivity to his own adrenalin. The work of Blumgart is cited.

JACK STARR, M.D.

Huet, P. G., and Facat, M.: Total Laryngectomy (La laryngectomie totale). *Presse med.* 141: 1013-43, 1935.

Huet and Facat state that cancer of the larynx which has not extended to the pharynx or invaded the glands is curable if the proper therapeutic measures are used. Cancer of the vocal chord in its earliest stage may be treated by radiotherapy, but is rarely seen in this stage. Certain growths that are especially radiosensitive may also be treated by radiotherapy. This form of treatment sometimes gives unexpectedly good results in inoperable cases and in recurrences.

The authors believe that as a rule the treatment of early laryngeal cancer is surgical when it is anatomically possible to remove all the malignant tissue and the glands are not involved. The majority of such cancers involve the vocal cord primarily. In the earliest stage, when the cord is involved, a laryngotomy with resection of the larynx and trachea gives good results. In a somewhat more advanced stage, in which the growth is confined to one side of the larynx, hemilaryngectomy is indicated. The results are best when the cord is still movable. When an early laryngeal growth cannot be completely removed by hemilaryngectomy, total laryngectomy is indicated. With modern technique this operation has become less formidable and less mortal.

The authors have found the total laryngectomy devised by Cheek and produced by Tarsis to be the most satisfactory. They describe the technique of this operation in detail. The chief features are the avoidance of preliminary tracheotomy if possible, laryngeal apertures, and exposure of the larynx from above downward. Important contributions by Tapia to the technique are the introduction of a cannula into the larynx at the time of separation from the pharynx, and the formation of a pericary covering (corset) from the muscles and thoracic perichondrium after closure of the pharynx.

ARTHUR M. MERRILL

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL NERVES

Kulesár, F.: The Importance of Percussion of the Skull by the Method of Benedek (L'importanza della percussione del cranio secondo il metodo di Benedek) *Riforma* n ed., 1935, 51: 745

Benedek's method of percussing the skull requires (1) a chart of the head divided into about fifty fields on which the thickness of the skull and the changes in the percussion note associated with differences in thickness are recorded, (2) a percussing device in which the frequency and intensity of the blows struck may be regulated exactly to eliminate the personal error of the examiner, and (3) an electric "pickup" and amplifier to intensify the sounds of the percussion. The patient lies supine with his mouth closed. If possible, the head is shaved. The skull is then carefully explored with the percussor. The significance of any variations noted in the percussion notes is determined from the chart.

The author cites cases in which this method proved to be of great diagnostic aid, discusses the possible sources of error, and shows how correct interpretation of the findings may supplement the findings of other methods of examination.

ERNEST T. LINDY, M.D.

Courville, C. B., and Nielsen, J. M.: Otogenous Abscess of the Parietal Lobe: A Review of the Literature and a Report of Six Cases. *Arch. Surg.*, 1935, 30: 930

Although otogenous abscess of the brain is commonly located in the temporal lobe or cerebellum, the authors' discovery of six cases of parietal localization in a group of sixty-three cases of otogenous abscess of the brain indicates that this location is sufficiently frequent to warrant greater attention. A review of the literature indicates that in many instances a parietal lobe abscess has been mistaken for abscess in the temporal, frontal, or occipital lobe.

The parietal abscess may be one of two or more abscesses located in one or both cerebral hemispheres and suggesting a vascular spread of infection. The occurrence of an associated thrombosis of the lateral sinus or of the connecting venous channel indicates that the infection travels through the veins. Other possible etiological factors are extension from an otogenous subdural abscess, from osteomyelitis of the parietal bone, and from an abscess in the temporal or frontal lobes, but these must be considered rare. When there are multiple abscesses in the temporal lobe, the spread may occur through the blood stream or by contiguity.

The abscess may be a large acute abscess (purulent encephalitis), a circumscribed abscess, or a small

heavily encapsulated abscess. The type of the abscess does not depend on the manner in which the infection reached the brain. Abscesses in the temporal lobe are usually due to contiguous infection of the bone, dura, and brain, and abscesses of the parietal lobe to vascular extension.

Successful drainage of the abscess requires accurate determination of its site. When the trephine opening is made directly over the abscess drainage is a comparatively simple problem provided the abscess is circumscribed.

The symptoms produced by an expanding lesion differ considerably from those produced by a purely local and destructive lesion. Extension of the infection, edema, and pressure may result in symptoms referable to the adjoining areas. The irritative motor signs are usually jacksonian seizures affecting the contralateral side of the body, particularly the upper extremity and face. These signs are sometimes observed in infants and young children with otitis media. In most instances complete recovery results. Whether or not these signs signify the development of an abscess can be determined only by watching the clinical course.

Conjugate deviation of the head and eyes is a common indication of lesions of the posterior and inferior portions of the parietal lobe. When it occurs as part of the seizure the head and eyes are directed away from the side of the lesion. When paralysis has set in the deviation is toward the side of the lesion.

Paralytic motor phenomena were observed in all of the authors' cases, but have not been mentioned in the records of most of the cases reported by others. Undoubtedly, minor manifestations of weakness have frequently been overlooked.

Sensory disturbances have long been recognized as primary parietal manifestations. There is a decrease in sensibility for all modalities without loss of any except tactile discrimination (astereognosis).

Trophic changes resulting from parietal lesions in early life have been described, but most patients with parietal abscess do not survive long enough to develop atrophy. In one case atrophy was still absent two years after successful surgical drainage.

Vasomotor disturbances, hemianopia, mind blindness, alexia, agraphia, apraxia, and disorientation have all been described as resulting from abscess of the parietal lobe. Their occurrence depends on the extent of the lesion and its influence on the surrounding tissue. Amnesic aphasia, affecting most often memory for names, is commonly associated with lesions of the inferior parietal lobe. Fluctuations in the degree of consciousness are commonly noted with abscess in any portion of the brain.

EDWARD S. PLATT, M.D.

Fischer F. *Examinations of the Lymph Vessels of the Meninges and Serosa of Animal and Human Fetuses* (Lymphgefäßuntersuchungen an Meningen und serösen Häuten des tieres und menschlicher Feten) 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935

Our knowledge regarding the movements of fluids within organs and of the resorption and transportation of corpuscular particles (dyes, bacteria, tumor cells) is still incomplete, partly because of the incompleteness of our knowledge regarding the lymph capillaries. It has not yet been proved that the lymph vessel system in the periphery is patent & identical with the tissue spaces. On the contrary all facts indicate that this system begins in the periphery with independent closed capillaries which merge directly with lymph vessels supplied with valves. We are not as yet fully informed regarding the extent or even the existence of lymph vessels in the large reticulo-endothelial organs the liver, spleen and bone marrow and we have no positive knowledge about the brain.

By combining the perhydrol method (Magnus) with the alternating bath method (Becher Fischer), the author succeeded in demonstrating the superficial lymph vessels of Glisson's capsule of the liver of a human fetus five months old. These lymph capillaries of the serosa cover the liver surface in a fine dense network and are probably connected with lymph vessels deeper in the parenchyma which it is assumed, are identical with the spaces of Disse. The lymph vessels of the parenchyma and capsule of the liver and of the gall bladder play an important part in serous inflammations (Roewley) especially in the development of certain forms of catarrhal icterus gall bladder edema and other diseases of the biliary tract (Eppinger). While the condition of the lymph vessels in the gall bladder can be demonstrated easily by modern methods, the condition of those in the liver capsule can be determined only with great difficulty and the condition of those in the parenchyma of the liver is actually not at all. Therefore further experimental investigations are necessary.

In the soft meninges of human and animal fetuses as well as at later stages of development no lymph vessels could be demonstrated by the most delicate of modern methods (perhydrol method Magnus 1922). Even the so called perivascular lymph sheaths have no connection with the lymph vessel system. In previously reported studies of the great omentum the author proved that there are no such structures as perivascular lymph sheaths in the sense in which this term has been so often used by pathologists and clinicians.

With regard to the formation of lymph nodes from fat tissue and especially the origin of the lymph sinus the author cites findings of importance such as the one made by him in the omentum of human adults and in the costal pleura of rabbits. Normally these structures show intimate connections between lymph capillaries and microscopically fine fat globules which are surrounded and penetrated by

capillaries. It is to be assumed that under the influence of chronic inflammatory irritation these capillaries send out proliferations and that after the fatty organ has been transformed into a lymphatic organ these take over lymph sinus functions. (Exhib. Fischer) MATTHIAS J. SEBERT M.D.

Bergstrand H. and Olivecrona H. *Angioblastic Meningiomas* 4th J. Cancer 1935 24 511

Seven meningiomas showing numerous mitoses and differing markedly in microscopic appearance were found in a group of 124 intracranial meningiomas. The seven tumors were encapsulated and did not infiltrate the brain. The chief clinical characteristic of the angioblastic meningiomas was a high degree of vascularity. Contrary to previous reports the authors found that in their clinical course and symptoms these meningiomas differed little from meningiomas of the ordinary type.

ROBERT ZOLLINGER M.D.

Torraca L. *A Tumor of the Dura Mater Perforating the Vault of the Cranium* (Tumore della dura madre perforante la volta cranica) Arch. ital. di chir. 1935 39 653

Tumors of the dura mater are usually meningiomas. They arise from the inner surface of the dura mater and are well capsulated. As they enlarge they gradually sink into the cerebral tissues forming a cavity. Occasionally they invade the other layers of the dura and the skull. Under the latter circumstances they are intracranial and extracranial. They are considered benign.

The author reports the case of a man sixty-two years old who presented a tumor of the dura mater which had perforated the cranial vault. The tumor was excised, but recurred three months later. As the neoplasm was atypical histologically the author was unable to classify it. He regarded it as malignant.

DAVID JOHN IMPASTINO M.D.

SPINAL CORD AND ITS COVERINGS

García D. E. *Syringomyelia* (La siringomielia) Rev. med. d. Rosario 1935 25 337

Syringomyelia is a disease of the spinal cord characterized by the formation of cavities in the cord. When the cavities occur only in the medulla the condition is called syringobulbia. The author reports two cases of syringomyelia supplementing the histories with photographs and microphotographs. He has come to the conclusion that the disease is caused by a disturbance in embryonic development in the mesoderm and particularly in the mesenchyme. Any chronic process particularly any chronic inflammation in the central nervous system capable of injuring the nutritive vessels may cause cavities resembling those of syringomyelia.

The treatment of syringomyelia depends upon the stage of development of the condition in which the diagnosis is made. If the patient comes for treatment in an early stage when sensory symptoms

predominate over trophic disturbances drainage of the cavities is indicated. The effect of drainage has been attributed to a decrease in the pressure. However, while in some cases the pressure is high enough for the liquid to flow out freely, in others it is negative and aspiration with a syringe is necessary. As the author obtained a very satisfactory result from drainage in a case in which the pressure was negative, he believes that the effect of drainage is not dependent on the pressure. He states that the fluid in the cavities apparently causes circulatory disturbances resulting in slight hemorrhages and islands of ischemia and edema which bring about necrosis of the nerve tissue and enlarge cavities. Operation should be followed by roentgen therapy. If the patient does not come for treatment until the disease has reached an advanced stage in which trophic disturbances predominate operation will do no good. Under such circumstances treatment should be limited to protection of the patient from trauma which may cause wounds difficult to heal and resulting in life-threatening infection.

AUDREY GOSS MORGAN, M.D.

Chiasserini, A.: Intercostoradicular Anastomosis in Vertebral Injuries with Section of the Lumbar Spinal Cord (L'anastomose intercosto-radulaire dans les traumatismes vertebraux avec section de la moelle lombaire) *J. de chir.*, 1935, 46-54.

Apparently one of the first to consider the possibility of nerve anastomosis to relieve the condition of patients with complete section of the spinal cord due to trauma was Monro. Experimental work proved that such a procedure was sound, but the results obtained in the first clinical case in which the method was used by Kilvington and Bird in 1900 were unsuccessful. In 1912, Frazier and Mills succeeded in restoring vesical control in a case of fracture of the second lumbar vertebra. More recently,

Puusepp obtained good results in the cases of several young persons with loss of sphincter control from injury or infantile paralysis.

Chiasserini reports his results in four cases of fracture of the lumbar vertebrae. The first three patients were operated upon from ten to sixteen months after the injury. The first two had large bed sores and the second a severe epididymitis prior to operation. The first patient died three days after the operation. The fourth patient was operated upon a few weeks after the injury. This patient not only regained urinary continence, but six months after the operation was able to contract several groups of muscles in both thighs. The two other patients regained urinary control three months and five months after the operation respectively.

The procedure recommended by the author is as follows:

1. The patient is kept under observation for about three weeks before operation as too early operation has a high mortality.

2. The extent of the injury sustained is determined by roentgenography of the bones and myelography.

3. In the first stage of the operation a laminectomy is done on two vertebra at the site of the injury. The peripheral nerve roots of the cauda equina are then gathered into a bundle and secured by wrapping them in a piece of tissue taken from the fascia lata.

4. A week or ten days later two intercostal nerves are isolated on each side, sectioned about the posterior axillary line, brought down under the dorsal muscles, and firmly fixed into the bundle previously made of the peripheral nerve roots.

This procedure seems to make a very satisfactory anastomosis as the nerves can be firmly secured in position. The various steps are shown by illustrations.

MARSH W. POOLL, M.D.

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Bellini A. A Contribution to the Study of the Bleeding Breast (Contributo allo studio della mammella sanguinante) *Pel clin, Rome* 1935 4 ser. chir 325

According to Bellini chronic hemorrhage from the nipple occurring spontaneously or as the result of trauma is always due to a morbid condition even if it is limited to a few drops. The morbid condition is considered by some to be a benign neoplasm such as a papillary adenoma or a chronic cystic mastitis but by others is regarded as a precancerous or cancerous lesion calling for immediate surgical intervention.

Hemorrhage of the breast occurs much more frequently in females than in males. In males it is always indicative of a malignant tumor.

Hemorrhage of the breast may be the early sign of a neoplasm which is clinically not detectable. The time which elapses between its occurrence and the appearance of a clinically detectable tumor may range from a few months to several years.

In briefly reviewing the literature the author calls attention to the fact that there is considerable difference of opinion with regard to the pathogenetic interpretation of the bleeding breast and its treatment but in the light of more recent studies the causes of the bleeding have been restricted to a rather limited number of pathological conditions. Chief among the latter are chronic cystic mastitis, endocanicular papillary epithelioma (the dendroepithelioma of Kauffmann), the intracanalicular cystoepithelioma of others, and carcinoma.

The endocanicular epithelioma is to be included among the potentially malignant tumors in spite of its apparently benign nature. According to several investigators this neoplasm develops slowly and becomes finally converted into a true carcinoma.

The author reports four cases of hemorrhage of the breast which came under his observation. In the first case the bleeding was due to an endocanicular papilliferous fibroadenoma, in the second to an endocanicular epithelioma becoming pericanicular and showing the invasive and infiltrative character of a typical precancerous lesion, and in the third to an endocanicular cystoepithelioma. In the fourth case the nature of the lesion remained undiagnosed because the patient refused to permit biopsy.

Those who consider hemorrhage of the breast a benign condition favor conservative treatment whereas those who regard it as a precancerous condition advise radical mastectomy with removal of the greater and lesser pectoral muscles and the axillary lymph glands.

In conclusion the author says that in cases of bleeding breast the possibility of an underlying precancerous or cancerous lesion should be considered; biopsy should be done, and if the lesion appears suspicious radical mastectomy should be performed and followed by removal of the axillary contents.

RICHARD E. SWEN

TRACHEA, LUNGS, AND PLEURA

Semb C. Thoracoplasty with Extrascapular Apicalysis. *Acta chirurg Scand* 1935, 56 Supp 17, II

The author's aim has been to develop a method of thoracoplasty yielding effective and selective collapse.

Good results after previous methods of thoracoplasty were due to deficient relaxation of the diseased part. This was true particularly in cases of cavities with a high posterior and medial situation, which is by far the most common localization.

With regard to the mechanical effect of the collapse desired artificial pneumothorax without adhesions was adopted as a model for the thoracoplasty.

The diseased part—the cavity—should be liberated in such a way that it can retract concentrically from the surface toward the hilum—not only from one side to the other but also from above downward from behind forward, from in front backward and eventually from below upward. In involvement of the upper lobe this is achieved by combining thoracoplasty with apicolysis or pneumolysis.

The author endeavors to produce effective and selective collapse of the thoracic wall as well as of the diseased part of the lung.

The thoracoplasty is performed with resection of the entire first rib and possibly of the second rib and of decreasing lengths of the adjacent ribs. The scalenus muscles and the upper part of the anterior serratus muscle are divided outside the pericostum to eliminate their traction and increase the collapse from above and from the side.

To produce collapse from behind forward and partly from above the posterior medial stumps of the ribs are resected medially beyond the point of the transverse process after evarticulation at the costovertebral joint. In addition the uppermost intercostal muscles and the periosteum of the ribs are severed posteriorly.

The apicolysis and pneumolysis have been developed with due regard to the anatomical conditions over the apex of the lung in tuberculous patients. Corresponding to the Zuckerkandl-Sebileau bands and Truett's laminae permanent drags of connective tissue have been demonstrated in patients subjected to thoracoplasty. The attachment of the endo-

thoracic fascia over the apex of the lung and thereby fix the latter to the neurovascular trunk, the spinal column, and the mediastinum. Because of pleuritis, they are frequently fibrous and resistant and the connection between the endothoracic fascia and the parietal pleura is firm and close. The periosteum, intercostal vessels and intercostal nerves attach the lung to the spinal column indirectly.

The apicotomy is performed extracapsulically by dissecting out the drags of connective tissue mentioned and also the periosteum, intercostal vessels, and intercostal nerves over the apex of the lung and severing them after ligation. This apicotomy is radical and effective, and associated with only slight danger of rupture of the cavity and infection.

Further downward, posteriorly, a partial pneumotomy may eventually be performed to increase the collapse from behind forward.

This procedure permits concentric retraction of the diseased part. The collapse is gradually fixed by reformed connective tissue and regeneration of ribs from the periosteum of the upper ribs.

The operation may be performed in one or several stages.

Of the cases in which the author has performed it, complete collapse of the cavity was obtained in more than 60 per cent and freedom from breath in more than 50 per cent. In the cases in which no more than six ribs were resected in one stage, the mortality was less than 3 per cent.

Fletcher, E.: Bronchiectasis. *J. Thorac. Surg.*, 1935, 4: 462.

Bronchiectasis must always be a secondary condition except in the rare instances of congenital malformation. The most common type follows repeated trauma and infection. The author reviews 100 cases of this type, which he calls "general bronchiectasis", 9 cases due to tuberculosis, 5 cases due to lung abscess, 2 cases due to primary carcinoma, 1 case each due to aneurism, syphilis, monilia, and industrial pneumoconiosis, and 4 cases with associated emphysema.

In the 100 cases of general bronchiectasis the nature of the condition was proved by the intratracheal injection of lipiodol or by autopsy. This proof is important because in previous series of cases fibrosis of the lung instead of bronchiectasis was assumed. Before the use of lipiodol it was impossible to distinguish between the two conditions accurately.

Non-tuberculous lung infection leading to the development of general bronchiectasis is most frequent in childhood between the ages of two and five years and in adult life between the ages of forty and fifty years. General bronchiectasis is slightly more common in males than in females. The lesions are distributed throughout the lung. Involvement of the left lung alone is much more frequent than involvement of the right lung alone or involvement of both lungs. No case of purely apical involvement has been observed. Acute attacks may occur at any

time of life, but are most common in the third and fourth decades. In the total number of cases of general bronchiectasis reviewed the incidence of clubbing of the fingers was 35 per cent and in the acute cases it was almost twice as high. A history of recurrent attacks was given in 28 cases. Approximately one fourth of the patients had frank hemoptysis. In 65 per cent of the cases the earliest symptom was cough. In 41 per cent there was no cough. One of the patients without cough was an adult. Although he developed bronchiectasis in childhood following whooping cough, he did not receive treatment until he was twenty-eight years old. The 3 others were children who had recurrent attacks of pneumonia. It seems that cough always occurs in adult bronchiectasis but may not occur in bronchiectasis in childhood. Expectoration occurred in over two thirds of the cases. In one-half of the cases the sputum had an offensive odor.

Loss of weight was more common in the cases of adults than in those of children. Complicating pyramidal infection occurred in only 4 per cent of the cases. Pyramidal conditions are secondary to the lung infection and their development has no effect on the lung. Arthritis occurred in 3 per cent of the cases reviewed. Empyema is possibly an occasional complication, but it is difficult to determine whether the empyema occurred before the bronchiectasis or as the result of it. In a recent article, Fletcher called attention to the necessity of reserving the word "atelectasis" for congenital conditions, and the word "detectedasis" for collapse of a lobe of the lung such as occurs in bronchiectasis. Detectedastic lobes were found on the left side in 11 of the cases reviewed and on the right side in 9.

In discussing the early symptoms of bronchiectasis of childhood the author states that two-thirds of the children whose cases he reviews had suffered from cough and one-half had had an attack of measles or whooping cough or both. It is evident that cough, by itself, is a serious symptom in children, and that measles and whooping cough are often the precursors of chronic and subacute lung infections.

The second great group of precursors of bronchiectasis in children are attacks of a condition generally called "acute bronchitis" or "bronchial pneumonia". The others are acute general lung infections and hemoptysis.

The precursors of the adult type of bronchiectasis are acute lung infections exclusive of pneumococcal lobar pneumonia, such as pleurisy, bronchopneumonia, and acute bronchitis. The author's patients with cylindrical bronchiectasis gave a history of only winter cough. Other causes of the adult type of bronchiectasis are adult measles and epidemic influenza.

The pyrexial attacks occurring in the course of the disease are of 2 types. The first is a common one which seems to be due to a periodic sensitization accompanied by a catarrhal reaction in the smaller bronchioles and, in general, a temporary extension of the disease. The second, which is probably a more

formidable infection than the first is characterized by true bronchopneumonia with a high temperature (up to 104 degrees F) with slight remissions.

On several occasions it has been noticed that on recovery from Type 1 the signs regressed to the original field of disease while after Type 2 the final site of bronchiectasis was more extensive than previously.

The article includes an outline classification of the various types of bronchiectasis and 11 statistical tables analyzing the cases reviewed.

J EDWIN KIRKPATRICK MD

Ameuille P and Lemoine J M. Bronchiectasis and Thrombosis of the Bronchial Artery (Bronchiectasie et thrombose de l'artere bronchique). *Presse med*, Jan 1935 43 873

The authors advance the theory that the changes resulting in bronchiectasis are due to arterial thrombi involving the vessels nourishing the bronchial walls and lung tissue. They believe that this theory explains the destruction of the musculo-cartilaginous walls of the bronchi, the fact that bronchiectatic lesions are rarely limited to a short segment of bronchus, and the relationship of bronchiectasis to syphilis, tuberculosis, and other inflammatory processes involving the lung.

In studies of a large number of lung free from bronchiectasis they always found the bronchial arteries patent. They state that while it is of course difficult to prove that bronchiectasis cannot arise without thrombosis of the vessels they have never observed a case in which this occurred. Because of technical difficulties due chiefly to the small size of the vessels they have thus far been unable to produce the condition experimentally.

The article includes photomicrographs showing thrombi in the vessels of the bronchial walls.

MAR H W POOLE MD

Browder J and DeVeer J A. The Varied Pathological Basis for the Symptomatology Produced by Tumors in the Region of the Pulmonary Apex and Upper Mediastinum. *Am J Cancer* 1935, 24 307

In recent years there have appeared in medical literature discussions of a clinical syndrome characterized initially by the Horner syndrome, pain in the shoulder and upper extremity and roentgen evidence of a tumor in the pulmonary apex of the corresponding side.

The authors report five cases and cite others from the literature which indicate that the symptoms depend upon implication of portions of the brachial plexus or some of its component spinal nerves, the cervical sympathetic trunk, and the great vessel in the involved area.

They believe that the syndrome cannot be considered either a clinical or a pathological entity, that it is merely the manifestation of the presence of a malignant tumor in a rather restricted anatomical area.

GEORGE A COLLETT MD

Derscheid, G and Toussaint P. Pleural Inflammations. A Photographic and Photomicrographic Study (Les inflammations pleurales. Contribution photo et micro photographique). *Presse med* Par 1933 43 1009

The authors discuss inflammations of the pleura especially from the cellular aspect. They recognize two principal phases. The first phase is the exudative phase, which is characterized by the presence of blood, serum, fibrin, pus, and various toxins from micro-organisms and degenerated cells. The second phase is the constructive phase which is characterized by the mobilization of inflammatory cells in sheets and perivascular tubes. The relation of these two phases to the formation of granulation tissue and fibrous tissue is discussed and the reaction seen in tuberculosis is described in detail.

The chief feature of the report is the illustrations. The pleura was photographed endoscopically and photomicrographs of biopsy specimens from the same region were made. After describing the normal pleura the authors compare the gross and microscopic findings in various types of pleural inflammation. They describe three pathological types of pleura—the granular, the fibrous and the fibrous. In the fibrous type are included vegetative, ulcerative, vesicular and degenerative lesions. Tuberculous lesions are apparently found frequently and usually do not cause serious postoperative complications. Parenchymatous inclusions are relatively rare and do not necessarily result in bronchopneural fistulas. This fact is probably explained by retraction of the lung with closure of the opening. The frequent absence of large bloody effusions following the resection of pleural adhesions is believed by the authors to be accounted for by an obliterating type of lesion in the blood vessels of such adhesions which they describe.

NATHAN A WOMACK MD

Troisier J, Barlety M and Brocard H. Sudden Death in the Course of Serofibrinous Pleurisy (La mort subite au cours de la pleurésie serofibrineuse). *Presse med* Jan 1935 43 100

The authors discuss sudden death in serofibrinous pleurisy particularly with reference to its pathogenesis and make a distinction between death from progressive asphyxia due to a very large effusion and sudden death from an unknown cause occurring in cases of moderate effusion. They report the case of a man thirty-six years old who entered the hospital suffering from serofibrinous pleurisy on the right side which was associated with moderate effusion extending only to about the lower angle of the scapula. The cell count showed that the effusion was of recent origin. The tubercular reaction was positive. There was nothing to indicate that the condition was particularly serious. During the next few days it remained practically unchanged. While the effusion increased somewhat it never reached the spine of the scapula. The dyspnea was well tolerated and the patient complained only of a moderate cough. However during the night he

awoke at about 4 o'clock with an attack of severe dyspnea and died in a few minutes.

At autopsy, nothing to explain the sudden death was found in the lungs, circulatory system, or kidneys, but on examination of the brain a marked difference in the color of the right and left halves of the floor of the fourth ventricle was observed. The right half was of normal color, whereas the left half was lilac-colored and a transverse section of the medulla on the left side was of a mauve color. Microscopic examination of the medulla not far from the olive disclosed lesions of two types. The first was a typical white thrombus causing extreme distention of a vessel by a mass of leucocytes made up about equally of polymorphonuclears and mononuclears. The endothelium was almost intact although some of the nuclei appeared swollen, indicating an inflammatory reaction. The other lesion was an extravascular hemorrhagic effusion. There were no visible lesions in the wall of the vessel. The effusion was undoubtedly secondary to the thrombosis. The sudden death was apparently due to the thrombus in the medulla. As there was no evidence of embolism, this must have been a local thrombosis from previous inflammation of the vessel. The cause of the latter could not be determined. No bacteria could be found in the region of the vascular lesions.

ALBERTA COSS MORALES, M.D.

ESOPHAGUS AND MEDIASTINUM

Lanzillo, F.: The Surgical Anatomy of the Thoracic Esophagus (*Anatomia chirurgica dell'esofago toracico*). *Riv. di chir.*, 1935, 1: 100.

The author reviews the anatomy of the esophagus on the basis of dissections and roentgenograms of the esophagus in the cadaver. The roentgenograms were taken after the esophagus had been tied at its upper and lower extremity and distended with barium. He discusses some new observations concerning the points of constriction, relationship, and

mobility of the mediastinal esophagus, and reviews and shows by illustrations the numerous methods of surgical approach to the esophagus.

PETER A. ROSS, M.D.

MISCELLANEOUS

Lille, O. R., and Fox, G. W.: Traumatic Intrathoracic Rupture of the Thoracic Duct with Chylothorax. *Int. Surg.*, 1935, 10: 1367.

Traumatic chylothorax is rare, only forty-five cases having been reported. To these the authors add a case of their own.

The striking clinical features of the condition are (1) the latent period before the onset of the symptoms, (2) the rapid reaccumulation of the fluid within the chest after aspiration, and (3) the gradual progressive emaciation which frequently ends in death.

The chylous fluid has a specific gravity of over 1.012. It resists putrefaction, and does not coagulate. When it stands, a "cream" layer forms. It contains many fat globules.

The authors' patient was a man forty-five years old who fell a distance of 20 ft. from a scaffold, landing on his back and fracturing two vertebrae. After loss of consciousness for four hours, his condition improved satisfactorily until the fifth day when, rather suddenly, he went into severe shock and a large amount of fluid appeared in the right pleural cavity.

By aspiration, 150 ccm. of bloody fluid was obtained and the symptoms were promptly relieved. This cycle of sudden appearance of symptoms, aspiration, and prompt relief was repeated every day or every other day for about five weeks. As much as 2½ liters of chylous fluid were withdrawn at one time. After the patient was put on an entirely fat-free diet the accumulation finally ceased and complete recovery resulted.

J. DANIEL WILLIAMS, M.D.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Cupe¹ *The Importance of the Transversalis Fascia in the Development of Inguinal Hernia* (Die Bedeutung der Fascia transversalis fuer die Entstehung der Leistenhernia) *Monatsschr f Unfallheilk* 1935 42 122

After describing the anatomical relations of the transversalis fascia in detail the author calls attention to the importance of the transversalis fascia in the development of congenital inguinal hernia and hydrocele. He is of the opinion that these conditions are due to weakness of the elastic elements of the fascia. He states that incomplete obliteration of the vaginal process, which is still present in a certain percentage of adults may not lead to hernia if the transversalis fascia at the abdominal ring is sufficiently strong to resist the intra abdominal pressure. It is only a contributory or predisposing cause of hernia. The enormous increase in the intra abdominal pressure during labor practically never leads to hernia formation. Hernia is equally infrequent in whooping cough. A normally developed and intact transversalis fascia withstands every type of intra abdominal pressure. Increased functional demands cause not weakening but a compensatory strengthening of the elastic elements. A single trauma may be regarded as the cause of an inguinal hernia only when the fascia is torn or injured. A hernia which appears suddenly after severe exertion without injury to the fascia is due to the entrance of abdominal viscera into the open vaginal process through a wide abdominal ring. The tendency toward herniation was present previously. All that was lacking to render the hernia manifest was the determining factor. The actual cause of the hernia was a congenital weakness of the transversalis fascia.

In indirect hernia there is a weakness of the fibers of the ligamentum interfoveolare on the internal aspect of the inguinal canal. In direct hernia the fascia forming the posterior wall of the inguinal canal is weak while the fibers of the inner inguinal ring are strong enough to prevent the exit of peritoneum or abdominal viscera under the influence of an increase in the abdominal pressure.

Frequent small traumas cannot induce hernia so long as the transversalis fascia is normal and elastic. Occupational demands do not notably favor hernia formation. With increased functional activity the elastic elements of the fascia, like muscle fibers are increased and strengthened. However if the functional demands are greater than the capacity of the tissues a tear results in the fascial structures.

All factors which injure the elastic fibers of the transversalis fascia tend to favor hernia formation

as the transversalis fascia alone forms the posterior wall of the inguinal canal and the internal abdominal ring. (L. DUBOIS) JACOB F. KERRY M.D.

Bratrud A. F. *The Ambulant Treatment of Hernia* *Minnesota Med* 1935 18 441

From his experience with the injection treatment of hernia in the last three years Bratrud concludes that this treatment may be used and the hernia bell reduced by a properly fitting truss in any case of inguinal hernia provided there are no surgical contraindications. He has employed the method also in cases of epigastric, femoral, and umbilical hernia. In giving detailed instructions for the proper fitting and application of the truss, he emphasizes the importance of the patient's co-operation. After discussing several objections to the treatment and a number of possible complications he cites the advantages of the method. He gives the formula for the solutions he has used to date with detailed instructions as to the amounts to be injected at each treatment, the type of syringe to be employed, the location of the injection site, and the instructions to be given the patient.

The article contains illustrations showing the location of the internal inguinal ring, the injection of the internal inguinal ring, the various points for the injections along the inguinal canal, pathological changes due to a direct hernia, the technique for the injection of Hesselbach's triangle, and the method of injecting umbilical hernias.

In conclusion Bratrud says that the injection treatment is a safe and effective method of correcting certain types of hernia if a proper technique is used. Knowledge of the fitting of trusses is absolutely essential. He states that the complications he enumerates have not been observed by him in clinical cases. He has treated 406 hernias in 587 patients. These included hernias of the indirect inguinal, direct inguinal, femoral and epigastric types. The incidence of recurrence has been slightly less than 4 per cent. FRED C. ROBERTSON M.D.

GASTRO INTESTINAL TRACT

MacCreedy P. B. *Cardiospasm A Report of Two Cases with Postmortem Observations* *Arch Otolaryngol* 1935 21 633

The term cardiospasm was first used by Meigs in 1832 in describing obstructions which he considered due to a simple spasm at the cardiac orifice of the stomach. Today the term is employed to designate a spasm of the lower end of the esophagus involving not the cardiac opening but the cardiac sphincter. Opinions differ as to the cause of the spasm.

In the first case reported by the author the typical clinical picture of cardiospasm was presented and the diagnosis was confirmed by fluoroscopic and esophagoscopic examinations and by operation. The condition was fatal. Autopsy disclosed a tremendous increase in the size of the circular smooth muscle of the lower two-thirds of the esophagus with no increase in the size of the longitudinal muscle fibers. There was also an extensive and diffuse chronic inflammatory reaction involving all coats but especially the submucosa. In the cardia there was no evidence of hypertrophy of the muscle fibers and the infection was much less evident.

In the second case, in which death resulted from trauma in esophagoscopy, the condition was of much longer duration. Autopsy revealed pronounced leukoplakia of the mucosa with ulceration of the mucous membrane. The hypertrophy was less marked because of extensive fibrotic changes in the muscular fibers.

The findings in both of these cases indicated that the cause of the cardiospasm was a chronic inflammatory reaction in the terminal portion of the esophagus, but a neurogenic origin could not be ruled out definitely.

JOHN W. NEZUM, M.D.

Westermann, J. J.: The Surgical Aspects of Bleeding Gastric and Duodenal Ulcer. *Ann Surg*, 1935, 101: 1377.

During the past ten years fifty cases of gastroduodenal ulcer complicated by hemorrhage were treated at St. Luke's Hospital, New York City.

Of the ten cases of gastric ulcer, nine were cases of penetrating ulcer of the lesser curvature. In eight of the latter the hemorrhage was slow and continuous and resulted in severe anemia. Three of the nine patients with penetrating ulcer of the lesser curvature were treated medically. Of these, two died in the hospital and one was discharged improved. The remaining six patients were treated surgically—four by the posterior Polya operation and two by posterior gastro-enterostomy with excision of the ulcer. The Polya operation was followed by one postoperative death. The patients subjected to posterior gastro-enterostomy with excision of the ulcer are both well at the present time and have had no further bleeding.

Of the forty patients with a duodenal ulcer, fourteen were not operated upon. Three of the fourteen are excluded from consideration because surgical intervention could not be considered in their treatment. The remaining eleven were treated medically and received one or more transfusions. Seven had one or more recurrences of hemorrhage and eight are dead.

In the cases of the twenty-six other patients with duodenal ulcer forty-two operations were performed. Posterior gastro-enterostomy alone, which was done seventeen times, was followed by recurrence of the hemorrhage in every case. The posterior Polya operation was done four times with one immediate death. Operation was followed by recurrent

hemorrhage in twenty-four cases, and death occurred as a direct result of the operation or postoperative hemorrhage in 13 (32.5 per cent).

The author believes that such unsatisfactory results may be avoided if the site of the hemorrhage is controlled by direct surgical attack. He states that the operation must be one which will deflect the food stream entirely and permanently away from the duodenum. Indirect surgical treatment has proved unsatisfactory. The operation of choice is resection of the Polya type including the ulcer-bearing area whenever possible. When the risk is considerable, resection for exclusion may be carried out with little or no more risk than gastro-enterostomy.

SAMUEL J. FOGELSON, M.D.

Fuss, H., and Leurs, L.: Contributions on the Problem of Intestinal Invagination (Beiträge zur Frage der Invagination des Darmes). *Beitr z klin Chir*, 1935, 161: 117.

Among the cases of intestinal conditions treated in the Surgical Clinic of the University of Bonn during the period from 1911 to 1933 there were thirty-five cases of intussusception, an average of one and six-tenths cases a year. Since 1923 the number of such cases has increased. The increase is explained by the opening in 1923 of a children's clinic in which seventeen cases came to operation, and by wider recognition by physicians of the importance of early operation.

Seventy-four and three-tenths per cent of the patients whose cases are reviewed were males and 62.9 per cent were in the first or second year of life. In the infants the condition was most frequent at about the middle of the first year and no anatomical cause for the intussusception could be found. In cases in which the invagination occurred after the second decade of life, polyps, connective tissue bands, and Meckel's diverticulum were discovered. In 2 cases the exciting cause was trauma due to heavy lifting. In fourteen of nineteen infants and five of nine adults the invagination occurred at the junction of the small bowel with the cecum. In eighteen of the nineteen cases of invagination in infants vomiting occurred and the feces contained blood, and in ten of these eighteen cases there was a palpable tumor. Palpation was often made difficult by the prognostically unfavorable meteorism.

In the cases of the nine patients in the second decade of life or older it frequently led to an incorrect diagnosis. The most common erroneous diagnoses were stenosis of the bowel, ileocecal tumor, and ileus.

Since the work of Anschuetz the conservative treatment recommended by Danish surgeons has been abandoned and early operation has been performed. In all of the nineteen cases of invagination in infants operation was performed immediately. The earlier the operation the lower the mortality. The dividing line between safety and danger is about the twenty-fourth hour. In the cases of infants a chance for a successful result is offered as a

rule only by disinvagination. Resection is practically never successful. Anschuetz reported three deaths in seventeen cases in which disinvagination was done and eight deaths in nine cases treated by resection. After the twenty-fourth hour disinvagination is rarely possible and the chance for a successful result decreases rapidly.

In cases in which the condition occurs after the second decade of life the prognosis is considerably more favorable even when operation is performed late the mortality being only 33.4 per cent. This is probably explained by the usually more chronic course of the condition at this age and the fact that older children and adults tolerate resection much better than young children.

(W. POBLE) LEO A. JUNKER, M.D.

Gold E. and Stritzko O. The Radical Operation for Carcinoma of the Rectum on the Basis of Clinical Material of the Last Ten Years. (Die radikale Operation des Rectumcarcinoms an Hand des klinischen Materials der letzten 10 Jahre). *Arch f klin Chir* 1935 182: 31.

This is a report on 117 operations for carcinoma of the rectum performed at the Ranzl Clinic in Vienna. Ninety were sacral operations, 17 combined operations, 4 intra-abdominal resections and 6 atypical operations such as local excisions. The total mortality was 23.9 per cent and the mortality of the sacral operations 16.6 per cent. Death following a sacral operation was due in 1 case to thrombophlebitis with embolism, in 2 cases to circulatory insufficiency, in 3 cases to pneumonia, in 6 cases to progressive infection of the sacral wound, in 1 case to peritonitis following injury to the urethra and a urinary phlegmon, in 1 case to peritonitis resulting from gangrene, and in 1 case to a rising spinal anesthesia. Half of the patients subjected to an apparently radical operation developed a recurrence. The fact that most of the recurrences appeared in the sacral stump and the glands suggests that the majority were due to incompleteness of the operative procedure. The authors therefore regard all operations which do not open the cul de sac of Douglas as not radical.

In performing the sacral operation they now follow the technique of Goetze. Especially dangerous are operations begun by the sacral method which must be concluded by another method which necessitates moving the patient several times. Such interventions have a high mortality. In the cases reviewed combined operations had a mortality of 58 per cent. The cause of death was peritonitis in 6 cases, urinary phlegmons in 1 case, embolism and circulatory failure in 1 case, and pneumonia in 2 cases. In 3 cases autopsy disclosed metastases in the liver which had escaped the notice of the surgeon in spite of careful exploration when the abdomen was opened.

The authors reserve combined operations for cases in which the tumor is situated very high, i.e. is largely or entirely intraperitoneal. The end

results of the combined operations in the reviewed cases are not reported.

(A. W. FISCHER) CLAUDE F. DIXON, M.D.

LIVER, GALL BLADDER, PANCREAS AND SPLEEN

Mooney A. C. Cholecystography. *Brit J Radiol* 1935 8: 493.

Cholecystography is reviewed with regard to the rationale of its use, the technique and its value as an aid in the clinical diagnosis of gall bladder disease. Visualization in the living subject has widened earlier conceptions of the anatomy of the gall bladder and permitted the demonstration of considerable variation in the position, mobility, shape and size of the organ. It has advanced our knowledge of its physiology by permitting the study of absorption phenomena, motility and evacuation and the effects of physiological factors, drugs and foods on evacuation. It makes possible the demonstration of pathological processes resulting in disturbances of function and other changes and reveals gall stones which escape detection in plain films because of non opacity.

The author discusses various pathological conditions of the gall bladder and the cholecystographic findings associated with each. He calls attention to the relationship of hypotonic and hypertonic conditions of the duodenum and lesions of the rectum and appendix to abnormal findings in cholecystograms. Extraneous causes such as impairment of liver function, achlorhydria, delay in the emptying of the stomach, external pressure and vomiting after the ingestion of the dye which may result in loss of concentration are discussed briefly.

The preparation of the patient and the making of the roentgenograms are described in detail. The importance of examination of the gastrointestinal tract with an opaque meal is emphasized.

The interpretation of the cholecystograms is discussed with regard to complete absence of concentration, normal concentration with normal motility, deformity and diminished size of the gall bladder, normal concentration with diminished motility, faint shadows and cholelithiasis. The differential diagnosis and errors in diagnosis are considered in relation to simulation of the bladder shadow, gas shadows, calcified costal cartilages, renal calculi, calcareous glands, duct calcifications, adenoma, papilloma and carcinoma.

In conclusion the author states that for reliable results the examination must be made with great care and the findings correlated with those of other clinical procedures.

ADOLPH HARTING, M.D.

Moratti A. Lymphatic Stasis in the Genesis of Lipoidosis of the Gall Bladder. (La stasi linfatica nella genesi della lipoidosi colecistica). *Clin Chir* 1935 11: 357.

The author reports two series of experiments on animals in which he demonstrated (1) the absorption

tion of thorium from the gall bladder and the distribution of the lymphatics of the gall bladder and liver, and (2) the development of cholesterosis of the gall bladder following lymphatic stasis.

In the first series of experiments he introduced a solution of Chinese ink and thorium into the gall bladder and after varying periods sacrificed the animals and studied the gall bladder and liver roentgenologically and histologically. No evidence of absorption of the ink was found. On the other hand the thorium salt was absorbed and granules of thorium were found in the lymphatic spaces and vessels of the gall-bladder wall and in the Kupffer cells of the liver. In the subserosa and submucosa the thorium granules outlined two well-developed lymphatic networks which were connected by lymphatic vessels across the muscular layer.

In the second series of experiments lymphatic stasis of the gall bladder was produced by dissecting the organ free from the liver and cutting the lymphatic trunks around the cystic duct. One week after the production of the stasis extensive desquamation of the epithelium, infiltration of the wall with blood or leucocytes, and a marked dilatation of the lymphatics, especially in the subserosa, were observed. The sudanophile granules were decreased in number in the epithelium, but appeared to be increased in the lymphatic reticulum of the subserosa and submucosa. The granules were found either free in the lumen or in the endothelial cells.

During the third week a regeneration of the epithelium, a development of villi, an accumulation of fat in the epithelium, and an increase in the fat granules in the subserosa and submucosa were found.

In the fourth week, macroscopic examination disclosed yellowish granules in the mucosa of the gall bladder and histological examination showed the epithelium to be covered with numerous elongated villi. There were no signs of inflammatory infiltration. The fat granules were scarce in the epithelium but abundant in the subserosa and submucosa of the newly formed villi. The fat was found either in large accumulations free in the lymphatic vessels or phagocytized in the endothelial cells.

Examination three or four months after the surgical procedure showed a grossly and microscopically normal gall bladder with adhesions to the undersurface of the liver. This demonstrates the reversibility of cholesterosis of the gall bladder after re-establishment of the lymphatic drainage of that organ secondary to the formation of postoperative adhesions between the gall bladder and liver bed.

PETER A. ROSI, M.D.

Aynsworth, K. H.: Stricture of the Common Bile Duct. *Am J Surg*, 1935, 28 562

A woman forty-nine years of age was operated upon June 7, 1915, because of gall-bladder disease which she had had for twenty years. Her condition being critical, only cholecystostomy was done. Soon after she left the hospital the symptoms recurred, and on August 25, the gall bladder was removed.

She then got along well until June, 1932, when she developed symptoms of obstruction of the common duct. At operation, the bile ducts were found to be a fibrous mass. At the junction of the cystic and common ducts there was a stricture which closed the duct almost completely. Excision of the stricture followed by end-to-end anastomosis was done.

The patient then got along very well for two weeks, but at the end of that time the symptoms recurred. At operation on July 19, 1932, the entire common duct was found to be a fibrous cord. Following its excision the part left at the junction with the hepatic duct measured about $\frac{1}{4}$ in in length and the duodenal end was so short that it could hardly be recognized as the duct. A rubber catheter was split at one end about $\frac{1}{2}$ in, one-half was inserted into each hepatic duct, and the small segment of the common duct remaining tied around it. The catheter was laid in the channel of the common duct and its other end passed into the duodenum for about 1 in. A soft rubber drain was placed down to the gall-bladder region, but not to the rubber tube.

The patient had a rather stormy convalescence for a few days, but thereafter did well. The drain was removed at the end of the second week and the wound healed. After about three weeks a fistula developed at the upper end of the abdominal wound, this discharged bile-tinged fluid for about two weeks and then closed. Subsequent roentgen studies showed that the rubber tube had been passed. The patient's condition has remained satisfactory.

In discussing this case the author states that the procedure followed seemed to be the only procedure feasible although it might have been possible to allow the formation of an external fistula and then use the fistulous tract for anastomosis with the duodenum or stomach.

In comparing reconstruction of the common duct with reconstruction of the urethra he states that the danger of stricture is less in the common duct than in the urethra. This is probably explained by the absence of muscle in the fibrous layers around the common duct and the fact that this duct is not surrounded by spongy tissue which produces fibrous tissue in healing.

In conclusion Aynsworth discusses various methods of reconstructing the common duct. He states that in most of the cases reported the defect to be repaired was small, whereas in his case the distance between the hepatic end of the duct and the duodenum was more than 2 in. and any approximation of the ends of the severed duct was prevented by fibrous tissue.

ALTON OCHSNER, M.D.

Allen, A. W., and Wallace, R. H.: The Technique of Operation on the Common Bile Duct. *Am J Surg*, 1935, 28 533

Primary surgery on the common duct is now an essential part of the treatment of gall-bladder disease rather than a secondary operation. Lahey reports that in his clinic the incidence of primary

choledochostomy increased from 15.5 per cent in 1906 to 42.5 per cent in 1931.

Such procedures as dilatation of the papilla of Vater and duct by special duct catheters (Cheever, Bakes) and irrigation of the duct into the duodenum (McArthur, Matas) have been advocated as supplements to common duct surgery, but have not been practiced routinely.

Bakes recommends gradual dilatation of the papilla to the size of its common duct after incision into the duct. He believes that this will improve the drainage of bile into the duodenum and allow the escape of any stone overlooked during the operation. He has devised for the purpose olive tipped bougies ranging from 3 to 14 mm in diameter. He states that such slow dilatation causes no formation of scar tissue.

The authors' technique is as follows:

A right long paramedian incision is made; the rectus muscle retracted laterally and the peritoneum opened. All adhesions are freed. The pancreas is carefully examined to exclude malignancy. The gall bladder is decompressed by suction and after visualization of the biliary ducts the gall bladder is removed in the usual manner. Following decompression of the common duct by aspiration with a hypodermic syringe the duodenum is freed for further exposure of the duct. The supraduodenal portion of the duct is incised in a longitudinal direction and 2 guy sutures are placed in each edge. The surgeon then goes to the left side of the patient and inserts the fingers of the left hand under the duct and the thumb above it. This enables him to milk out and remove any stones under direct vision. A probe is passed through the incision into the duodenum and followed by the Bakes dilators until sufficient dilatation of the papilla is obtained. If the probe cannot enter the duodenum the latter is opened longitudinally and retrograde dilatation is done. The duodenum is closed transversely. The dilatation is done slowly and gently to the widest diameter of the duct. During the entire procedure the suction tip lies in contact with the operative field aspirating oozing bile and any fine debris that may be spilled. A No. 10 soft rubber catheter is sewed into the lower angle of the wound with No. 00 chromic catgut on an atraumatic needle and the incision closed about the tube. After peritonealization of all raw surfaces a gauze wick is placed in the subhepatic fossa. The gauze wick and the catheter are brought out through a stab incision made under the lower border of the twelfth rib. The abdomen is closed in the usual manner. The catheter and wick are removed on the tenth postoperative day. The authors emphasize that the gauze wick is placed in the subhepatic fossa and no drains are placed in contact with the gall bladder bed, ducts or duodenum.

Surgeons employing this technique report that their patients have a smoother postoperative convalescence with less vomiting and that the incidence of duodenal irritation, infection and incisional

hernia is low. Probably the most important factor is the routine dilatation of the papilla.

The authors next discuss the indications for exploration of the common duct. These are:

1. Recurrence of symptoms following a cholecystectomy or choledochostomy. Patients who return with the same symptoms after a gall bladder operation usually have some abnormality of the common duct. In many cases the authors have found a duct dilated by a stone and constriction of the papilla. The symptoms may be relieved by the technique described.

2. Jaundice of an obstructive type. Patients who show a progressively increasing or a stationary jaundice of an obstructive type should be subjected to duct exploration with dilatation of the papilla after the usual pre-operative preparation.

3. A history of chills and fever following biliary colic. In cases with these symptoms there is usually an inflammation of the duct system with the gall bladder acting as a focus of infection. For such cases cholecystectomy and primary choledochostomy by the described technique rather than cholecystectomy is recommended.

4. A history of very frequent attacks of biliary colic.

5. The presence of small stones or sand in the gall bladder.

6. Contracted gall bladder.

7. Thickening in the head of the pancreas.

8. Cholangitis.

9. Impairment of liver function due to mechanical interference with bile drainage into the intestine.

Of 901 operations performed for diseases of the gall bladder and its ducts in the period from January 1, 1931 to November 1, 1934, 138 were cholecystectomies with primary choledochostomy and dilatation of the papilla. In the cases in which these operations were performed there were only 4 post-operative deaths. In 113 cases in which cholecystectomy was done with exploration of the common duct but without dilatation of the papilla there were 8 deaths. Of the entire series of cases exploration of the common duct was done in 269 (30 per cent) and of the latter stones were found in the duct in 40 per cent.

The possible complications that may occur after dilatation of the papilla are duodenal reflux and acute pancreatitis due to dilatation or injury of the transduodenal portion of the duct. Duodenal reflux or backflow of the duodenal contents into the common duct did not occur in the cases reviewed, but has been reported by other surgeons. Acute pancreatitis developed in 1 case. This may occur in any large series of cases and should not condemn the procedure.

The question as to whether the common duct should be drained by a catheter or closed immediately is important. Bakes advocated closure of the duct because of the hydraulic action of a closed system. However, he noted considerable bile drainage from the suture line in a large number of

GYNECOLOGY

ADNEXAL AND PERIUTERINE CONDITIONS

Robinson M. R. The Surgical Treatment of Ovarian Dysfunctions. *Am J Obst & Gynec* 1935 30 19

Seven cases of ovarian dysfunction were studied by the author clinically and pathologically to determine whether such functional disturbances have an organic basis.

It was found that structure and function are closely related; that the morphological alterations are almost imperceptible in the early phases of the dysfunction but become more definite and permanent with persistence of the dysfunction; and that the correlation between the physiological and morphological changes is most marked in the terminal phases of the dysfunction.

The author states that an ovarian dysfunction may be considered to have reached the end of its evolution and to have become a fixed pathological state when all manifestations of an attempt to return to cyclical functioning have disappeared.

As long as cyclical phenomena are observed in a case of ovarian dysfunction, non-surgical treatment may be given, but when all evidences of rhythmic functioning have disappeared, bimanual palpation reveals a distinct enlargement of one or both ovaries and a fair trial of palliative measures has failed, partial ovarian resection is justified.

EDWARD LYMAN CORLETT, M.D.

Crousse R. and Dupont A. Ovarian Metastases of Epitheliomas of the Digestive Tract. Krukenberg Tumors. (Les métastases ovariennes des épithéliomas digestifs: tumeurs de Krukenberg.) *Bruxelles méd* 1935 35 902, 931

Crousse and Dupont present a tabulation of 32 cases of Krukenberg tumor, nine of which were their own and report three of their own cases in detail.

They state that Krukenberg tumors are usually bilateral. As a rule the tumor on the right side is larger than the tumor on the left. The neoplasms are usually of an elastic consistency and frequently show cystic areas. They are surrounded by a capsule and on section show hard whitish and softer yellow necrotic areas. Krukenberg, who first described these tumors in 1897, regarded them as primary, but subsequent studies have shown them to be secondary to tumors in the digestive tract. In the authors' cases and the other cases tabulated, the primary tumor was in the stomach. While the stomach is its most common site, it may occur also in some other part of the gastro-intestinal tract.

Krukenberg tumors occur usually in young women in the period of full sexual activity. Of the authors' nine patients, five were under forty years of age.

While in some cases the gastro-intestinal cancer is diagnosed and perhaps operated upon and the symptoms of the ovarian tumors develop subsequently, in the majority the first symptoms are due to the ovarian tumors; the digestive symptoms are slight and the primary tumor is discovered only after a correct diagnosis of the nature of the ovarian tumor has been made. Of the three cases reported in detail, the first was of the latter type. In the second, the symptoms of ovarian tumor developed three years after gastrectomy. In the third, the ovarian tumors were found at autopsy after a palliative operation for a gastric cancer that had caused symptoms for years.

The ovarian symptoms are relatively slight. The most frequent sign is amenorrhea. This is a relatively late sign caused by considerable destruction of the ovarian tissue. Menorrhagia and metrorrhagia are rare. Often the first sign noted is enlargement of the abdomen. This is due not only to the growth of the tumors but also to the concomitant ascites.

Bimanual examination discloses a usually bilateral mass which as a rule is definitely separated from the uterus. This mass is usually hard and nodular. If its situation in relation to the uterus cannot be definitely determined by bimanual examination, hystero-graphy will show the uterine cavity to be normal.

Histologically, ovarian tumors of the Krukenberg type consist of an invasion of the ovarian parenchyma by epithelial cells of two types. In one type, the epithelial cells are isolated, smaller than those of the ovarian stroma but with large nuclei often in active mitoses. The cells often secrete mucus which accumulates within the cell, pushing the protoplasm toward the periphery. In the second type of invasion, the cells are not isolated but grouped in masses, sometimes with irregular glandular cavities and form more or less typical glandular epithelioma. In this type, the mucus sometimes escapes from the cells forming plaques in the surrounding connective tissue. The ovarian stroma in contact with the cancer cells reacts by an increase in fibrocytes which form a structure resembling that of fuscellular sarcoma. It was this characteristic that led Krukenberg to consider these tumors sarcomas. Histological studies of the primary tumor of the digestive tract have been made but rarely. Of three of the authors' cases in which the nature of the primary (gastric) tumor was determined, the examination revealed a diffuse epithelioma in one case, linitis plastica in one and an atypical glandular epithelioma in the third.

The prognosis of Krukenberg tumors of the ovary is definitely poor. At least two-thirds of the patients die within a few months after operation. The diagnosis is usually made late because symptoms are

GYNECOLOGY

ADNEXAL AND PERIUTERINE CONDITIONS

Robinson M R The Surgical Treatment of Ovarian Dysfunctions *Am J Obst & Gynec* 1935 39 18

Seven cases of ovarian dysfunction were studied by the author clinically and pathologically to determine whether such functional disturbances have an organic basis.

It was found that structure and function are closely related; that the morphological alterations are almost imperceptible in the early phases of the dysfunction but become more definite and permanent with persistence of the dysfunction and that the correlation between the physiological and morphological changes is most marked in the terminal phases of the dysfunction.

The author states that an ovarian dysfunction may be considered to have reached the end of its evolution and to have become a fixed pathological state when all manifestations of an attempt to return to cyclical functioning have disappeared.

As long as cyclical phenomena are observed in a case of ovarian dysfunction, non surgical treatment may be given but when all evidences of rhythmic functioning have disappeared, bimanual palpation reveals a distinct enlargement of one or both ovaries and a fair trial of palliative measures has failed, partial ovarian resection is justified.

EDWARD LYMAN CORNELL M D

Crouse R and Dupont A Ovarian Metastases of Epitheliomas of the Digestive Tract Krukenberg Tumors. *Les métastases ovariennes des épithéliomas digestifs (tumeurs de Krukenberg)* *Practitioner* 1935 15 902 911

Crouse and Dupont present a tabulation of 32 cases of Krukenberg tumor, nine of which were their own and report three of their own cases in detail.

They state that Krukenberg tumors are usually bilateral. As a rule the tumor on the right side is larger than the tumor on the left. The neoplasms are usually of an elastic consistency and frequently show cystic areas. They are surrounded by a capsule and on section show hard whitish and softer yellow necrotic areas. Krukenberg, who first described these tumors in 1833, regarded them as primary but subsequent studies have shown them to be secondary to tumors in the digestive tract. In the authors' cases and the other cases tabulated the primary tumor was in the stomach. While the stomach is its most common site it may occur also in some other part of the gastro-intestinal tract.

Krukenberg tumors occur usually in young women in the period of full sexual activity. Of the authors' nine patients five were under forty years of age.

While in some cases the gastro-intestinal cancer is diagnosed and perhaps operated upon and the symptoms of the ovarian tumors develop subsequently in the majority the first symptoms are due to the ovarian tumors. The digestive symptoms are slight and the primary tumor is discovered only after a correct diagnosis of the nature of the ovarian tumor has been made. Of the three cases reported in detail the first was of the latter type. In the second the symptoms of ovarian tumor developed three years after gastrectomy. In the third the ovarian tumors were found at autopsy after a palliative operation for a gastric cancer that had caused symptoms for years.

The ovarian symptoms are relatively slight. The most frequent sign is amenorrhea. This is a late sign caused by considerable destruction of the ovarian tissue. Menorrhagia and metrorrhagia are rare. Often the first sign noted is enlargement of the abdomen. This is due not only to the growth of the tumors but also to the concomitant ascites.

Bimanual examination discloses a usually bilateral mass which as a rule is definitely separated from the uterus. This mass is usually hard and nodular. If its situation in relation to the uterus cannot be definitely determined by bimanual examination, hystero-graphy will show the uterine cavity to be normal.

Histologically ovarian tumors of the Krukenberg type consist of an invasion of the ovarian parenchyma by epithelial cells of two types. In one type the epithelial cells are isolated, smaller than those of the ovarian stroma but with large nuclei often in active mitosis. These cells often secrete mucus which accumulates within the cell pushing the protoplasm toward the periphery. In the second type of invasion the cells are not isolated but grouped in masses, sometimes with irregular glandular cavities and form more or less typical glandular epithelioma. In this type the tumor sometimes escapes from the cells forming plaques in the surrounding connective tissue. The ovarian stroma in contrast with the cancer cells reacts by an increase in fibrocytes which form a structure resembling that of fuscel sarcoma. It was this characteristic that led Krukenberg to consider these tumors sarcomas. Histological studies of the primary tumor of the digestive tract have been made but rarely. Of three of the authors' cases in which the nature of the primary (gastric) tumor was determined the examination revealed a diffuse epithelioma in one case, linitis plastica in one and an atypical glandular epithelioma in the third.

The prognosis of Krukenberg tumors of the ovary is definitely poor. At least two-thirds of the patients die within a few months after operation. The diagnosis is usually made late because symptoms are

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Pagliari M. One Hundred Cases of Placenta Previa Centralis and Marginalis (Con sidera una clinica su una centena di casi di placenta previa centrale e marginale) *Ginecologia* 1935 1 537

Of 18300 deliveries occurring at the Royal Maternity Hospital of Turin during the period from 1925 to 1934 inclusive, placenta previa occurred in 100 (0.54 per cent). The incidence of placenta previa centralis was 0.58 per cent while that of placenta previa marginalis was 0.42 per cent. Eighty per cent of the women with placenta previa were multiparas. In 26 cases the condition was discovered at term in 24 in the ninth month of the pregnancy in 30 in the eighth month, in 17 in the seventh month and in 3, in the sixth month. The incidence of hemorrhage was 41 per cent in the seventh month and 28 per cent in the eighth month. In 1 case hemorrhage occurred only during labor at term.

The presentation of the fetus was cephalic in 61 per cent of the cases, breech in 33 per cent, and transverse in 6 per cent.

The treatment and mortality were as follows:

Treatment	Cases	Deaths—	
		Maternal	Fetal
Braxton Hicks version	50	12	46
Tamponade and evacuation of the uterus	1	1	1
Bag followed by podalic version	1	1	1
Prophylactic delivery of the feet (breech presentation)	11	1	10
Classical version	18	3	12
Classical cesarean section	1	2	3
Low cesarean section	3	0	0
Vaginal cesarean section	1	1	1

The total maternal mortality was 0 per cent and the total fetal mortality 3 per cent. Fifteen of the maternal deaths were attributed to hemorrhage, 2 to sepsis and 2 to bronchopneumonia. In the cases of death due to sepsis tamponade had been done before the patient's admission to the hospital. Of the fetal deaths 20 were due to immaturity. In 18 of the cases in which the death was due to immaturity no fetal heart tones were heard before the intervention.

The morbidity was 16 per cent in the cases of placenta previa marginalis and 9 per cent in the cases of placenta previa centralis. Phlebitis occurred in 4 cases and bronchopneumonia in 2.

The author concludes that the treatment of choice for placenta previa especially that of the central type is cesarean section by the abdominal route. He emphasizes the importance of hospitalization in all cases in which placenta previa is suspected.

GEORGE C. FINOLA, M.D.

Engelking E. Ophthalmologically Important Roentgen Ray Injuries to the Fetus After Irradiation During Pregnancy (Auchstrahlhitzige Roentgenscharidigungen der Frucht nach Bestrahlung, Schwangerschaft) *Altn. Mon. titel f. Angenh* 1935 94 151

The possibility of ophthalmological injury of the fetus from irradiation of the mother during pregnancy is discussed by the author on the basis of the literature and his own experience. In describing the ocular changes ascribed to roentgen, radium and mesothorium irradiation Engelking cites the difficulties encountered in definitely establishing the relationship of such changes to the irradiation. He reports in detail and discusses a case presenting the syndrome described by Zappert which is characterized by lid adhesions, epicanthus, corneal opacity, clouding of the lens, aplasia and atrophy of the optic nerve, developmental disturbances of the retina and chorioid a pigmented or albinotic fundus, coloboma of the retina and chorioid, chororetinitis, pigmentation of the retina, strabismus and nystagmus.

In the author's opinion a relationship between roentgen irradiation of the pregnant uterus and the appearance of developmental defects in the fetus can no longer be doubted and the possibility of microcephalus with microphthalmos due to irradiation must be admitted. With regard to the occurrence of indirect injury of the fetus from extragenital irradiation of the pregnant woman Engelking states that while in his opinion the condition in the case cited by Flakamp was not due to the irradiation the question as to the possibility of such injury has not been answered.

(WENKSTL.) MATTHEW J. SEIFERT, M.D.

Zocchi S. and Robecchi E. A Roentgenological Study of the Topographical and Functional Changes of the Intestine in Pregnancy at Term (Studio radiologico delle modificazioni topografiche e funzionali dell'intestino nel 3. trimestre) *Ginecologia* 1935 1 67

The authors selected for their study normal primiparas and multiparas. For the study of the upper portion of the intestinal tract they administered 350 c.c. of a barium meal and for the study of the lower portion of the intestinal tract they used a barium enem. The patient was examined in the erect position and the observations were made in dorsoventral and lateral positions.

The duodenum was never found in the normal position. In many cases the duodenal bulb could not be seen and in others it appeared inverted. The authors believe that these individual differences are related to the height of the uterine fundus, the corresponding alterations in the shape and location of

fifth month of pregnancy. The last delivery which occurred in 1927, was normal. Menstruation had always been irregular since its onset at the age of thirteen. Sometimes there had been periods of amenorrhea lasting two or three months. However since March 1934 the menses had been regular. The last menstruation began September 8 1934. In October the patient began to complain of heat flushes, somnolence, vertigo, nausea, swelling of the breasts and discomfort and a feeling of weight in the lower abdomen. She consulted a physician on October 20 forty two days after the last period. On examination the uterus was found to be about the size of a child's head hard and irregular. The Aschheim Zondek reaction was negative. Because of the previous menstrual irregularities a uterine fibroma was suspected.

The patient was seen by the author January 3 1935 when the symptoms had become more pronounced. Examination disclosed three tumors, one of elastic consistency on the left side, a poorly defined soft tumor on the right side and a fluctuant tumor in the cul de sac. The cervix was elevated. The Aschheim Zondek reaction was positive. A diagnosis of pregnancy complicated by uterine fibroids was made. To prove this an intravenous injection of 0.3 cc. of an extract of the posterior lobe of the hypophysis was given. Twenty five seconds after the injection the tumor in the cul de sac became as hard as wood the tumor on the left changed slightly in consistency and the tumor on the right side showed practically no change. The final diagnosis was pregnancy in a retroflexed uterus containing a fibroid which was undergoing softening. A third Aschheim Zondek reaction was positive.

Operation disclosed a pregnant uterus from the left cornu of which there arose a sessile fibroid with a softened center. Resection of the fibroid was done without opening the uterine cavity. On the third day after the operation abortion occurred. The remainder of the postoperative course was uneventful.

This case is regarded as of interest because of the negative Aschheim Zondek reaction during the early stage of the pregnancy and the use of an extract of the posterior lobe of the hypophysis in the differential diagnosis. NATHAN A. WICKMAN, M.D.

LABOR AND ITS COMPLICATIONS

Lorenzetti F. The Kjelland Forceps Judged on the Basis of 200 Applications and a Modification of the Technique of Their Use. (Il forcipe Kjelland giudicato in base ad una casistica di 200 applicazioni e ad una particolare modificazione di tecnica). *Ginecol.* 513 1935 1 523.

The author has used the Kjelland forceps in 200 deliveries with uniformly good results. Eighty of the women were primiparas. Six of the applications were made in cases of face presentation and 194 in cases of vertex presentation. Thirty six were high forceps applications, 120 mid forceps applications and 44 applications on the floating head.

There were no maternal deaths. Three fetal deaths occurred in the high forceps applications, 3 in the mid forceps applications and 4 in the applications on the floating head. The total fetal mortality was 5 per cent.

After the first 50 applications the author substituted for the original technique of introducing the anterior blade into the uterus and rotating 180 degrees the introduction used for an anteroposterior position. He claims no originality for the latter procedure.

He believes that the Kjelland forceps are of most value for face presentations, transverse and posterior positions, high applications and asynclitism. The construction of the instrument permits a direct cephalic application regardless of the position of the head. Only one application is necessary in the posterior position. In high applications the straight handle permits traction most nearly in the axis of the inlet. The mobile articulation allows an even distribution of pressure on the head when the blades extend unequally into the birth canal.

GEORGE C. FIVOLA, M.D.

Kristensen B. Manual Detachment of the Placenta and Intra Uterine Palpation. *Läk. et gynec. Scand.* 1935 15 195.

Intra uterine manipulations after childbirth used to be considered very dangerous, but experience in recent years seems to show that the danger was exaggerated. Several obstetricians have asserted that the risk of these interventions is very small in suitable cases and that the patient may be exposed to more serious danger if the manipulations are omitted.

A review made by the author of 208 cases in which intra uterine manipulations were carried out in the State Hospital at Copenhagen in the period from 1924 to 1933, showed that such manipulations are dangerous in the cases of infected or markedly premature women, but in cases in which the placenta or parts of it are adherent and cannot be removed by expression, the necessary intra uterine intervention should be done as soon as possible. In uncomplicated cases the risks are very small.

PUERPERIUM AND ITS COMPLICATIONS

Gibberd G. F. The Treatment of Puerperal Septic Infection. 1935 134 733.

Very broadly speaking the infecting organisms in puerperal fever behave in one of three ways: they may tend to remain localized at the site of inoculation, they may tend to form thromboses in the large veins with or without breaking down the clot and the dissemination of septic emboli, or they may tend to spread to adjacent tissues and to the blood stream by permeating lymphatics or the smallest veins.

Infections of the first type are often caused by such organisms as the bacillus coli, staphylococci and non hemolytic streptococci. If the infection remains localized to the site of inoculation the patient will most certainly recover sooner or later. The same

(6) epidermolysis bullosa and (7) hydrops vaccini forme

The treatment has three phases (1) prevention (2) control of the epidemic, and (3) the treatment of cases. In treatment of cases the most satisfactory results are obtained from frequent cleansing with a mild antiseptic followed by the application of a dry dressing

RULEAND S CHOX M D

MISCELLANEOUS

Feiner D. Chorionepithelioma with a Long Latent Period. *Am J Obst & Gynec* 1935 29 840

Feiner reports the case of a woman twenty eight years old who developed a fatal vaginal tumor with the histological structure of a malignant chorion epithelioma two and one half years after a pregnancy

In view of the number of authentic similar cases reported in the literature he concludes that whereas in the vast majority of cases all fetal elements are destroyed by the maternal tissue within a comparatively short time after the termination of pregnancy, in exceptional instances fetal epithelia may remain dormant in the maternal host either at the placental site or elsewhere for months or years and then by some unknown agency be stimulated to malignant proliferation. The fact that in many of the cases the tumor developed long after the menopause disproves the theory that in all such cases an intervening pregnancy has escaped detection

In conclusion Feiner says that if the Aschheim Zondek test had been used earlier in the case he reports the progress of the disease might have been arrested by prompt hysterectomy

FORWARD LYMAN CORNWELL M D

Brews A. A Follow Up Survey of the Cases of Hydatidiform Mole and Chorionepithelioma Treated at the London Hospital Since 1912. *Proc Roy Soc Med Lond* 1935 29 1213

This article is based on a consecutive series of seventy two cases of hydatidiform mole and sixteen cases of chorionepithelioma. The cases of patients with a hydatidiform mole who subsequently developed a chorionepithelioma are included with the cases of chorionepithelioma

A case of combined normal gestation and molar gestation suggested that the etiological factor is an

inherent abnormality of the ovum rather than of the mother

Molar gestation may occur at any time during the child bearing period of life but of the patients whose cases are reviewed 37.5 per cent were forty years old or older

The average number of children previously borne by these women was 4.3 and the average number of miscarriages 0.7. Twenty three and 2.5 tenths per cent of the women were primigravidae

In about 20 per cent of cases the uterus is smaller than would be expected from the calculated duration of the pregnancy

In 35 per cent of thirty four cases in which the examination of a catheter specimen of urine was recorded albuminuria was found

The most common erroneous diagnosis was pelvic tumor (uterine or ovarian). This was made in 11.5 per cent of the cases

Conservative treatment which was given in the majority of the cases, had a mortality of only 1.4 per cent. Primary hysterectomy was done in only six cases

Puerperal sepsis or pyemia developed in six cases. In 9 per cent of these chorionepithelioma developed subsequently

Secondary hemorrhage during the puerperium occurred in 15 per cent of the cases. In four of the ten cases it was due to the development of a chorion epithelioma in the uterus

In two other cases in which a chorionepithelioma is known to have developed there was no secondary hemorrhage

The known incidence of chorionepithelioma was 8.3 per cent (six cases). In one of these cases there was a malignant perforating hydatidiform mole

During the same period of time eight other cases of chorionepithelioma were seen. Two of the patients were males

The author calls attention to the value of the Aschheim Zondek and Friedman tests and emphasizes the importance of considering other clinical and laboratory findings in the interpretation of the reaction

In conclusion he says that the ultimate prognosis in the reviewed cases of proved chorionepithelioma was unexpectedly good and that after a pregnancy complicated by hydatidiform mole fetuses are often entirely normal

CASE H BAKER M D

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Sgrosso, J. A.: The Late Effect of Denervation of the Adrenal Gland on the Secretion of Epinephrin (Efecto alejado de la desnervación de la glándula suprarrenal sobre la secreción de adrenalina). *Rev. Soc. argent. de biol.*, 1935, 11: 139

In experiments of dogs two types of operations were performed—simple denervation at the hilus of the adrenal and section of the sympathetic chain and celiac plexus. The secretion of epinephrin was then determined at intervals of one month, six weeks, and three months. The suprarenal transfusion of Tournade and Chabrol was employed.

No reflex secretion could be produced by faradic stimulation of the brachial, sciatic, or vagus nerves, and no discharge of epinephrin by direct stimulation of the gland.

In normal glands a discharge of epinephrin was produced by several drugs, and direct faradic stimulation of the gland before injection of the drug increased the amount of secretion produced by the drug.

Histological examination of the denervated adrenals showed the presence or hemorrhagic foci in the boundary between the cortex and medulla and in the medulla and internal portion of the cortex in one animal of each series. In the remainder the denervated gland presented the same microscopic appearance as the normal gland of the animal.

WILLIAM R. MEEKER, M.D.

Keyser, L. D.: Recurrent Urolithiasis. Etiological Factors and Clinical Management. *J. Am. M. Ass.*, 1935, 104: 1299

Urinary calculi may be produced in laboratory animals by (1) feeding oxamide, (2) producing an artificial excessive excretion of calcium oxalate, (3) the administration of excessive doses of parathyroid extract or viosterol, (4) the formation of uric acid calculi in animals with Eck fistulas, (5) feeding diets deficient in Vitamin A, (5) infection with urea-splitting streptococci, staphylococci, and bacillus proteus ammonia, and (6) causing the incrustation of organic or inorganic foreign bodies in the presence of infection.

The first three of these methods depend upon an asepetic metabolic disturbance associated with an excessive excretion of urinary crystalloids.

Preventive measures against recurrence should be begun with the removal of as many stones as possible by surgery or cystoscopy. At operation, particular care should be taken to prevent exposure of suture material to the urinary stream and to establish proper urinary drainage. In calculous pyonephrosis with severe infection nephrostomy is of value.

Roentgenograms should be taken at periods of from six months to a year, and repeated determinations should be made of the uric acid of the blood and the serum calcium and serum phosphorus. If hyperparathyroidism is suggested, roentgenograms should be taken of the bones. The dietary intake of purines, oxalates, calcium, and phosphorus should be regulated according to the predominant constituent of the stones removed. A high intake of Vitamin A should be given a further trial. While the rôle of focal infection in stone formation is not clear, every effort should be made to eliminate or reduce any infection present. Repeated bacteriological studies of the urine should be made. As the chief mechanical factor in recurrence is urostasis, periodical postoperative lavage with indwelling catheters and dilatation of the ureter with bulbs up to No. 16 F. should be done. The reaction of the urine should be changed to the opposite of that which is ideal for stone formation in the given case. Marked acidification is indicated in cases of oxalate, carbonate, and phosphate calculi and alkalization in cases of urate and cystine stones. The urinary reaction should be determined in terms of hydrogen-ion concentration.

The author cites seven cases in which this treatment was followed. In none has there been a recurrence in the past year. In six cases a minor degree of infection persists, but in eleven the urine is free from pus and bacteria. Keyser is convinced that the clinical management described is more successful in breaking the cycle of recurrent stone than any other heretofore employed. H. W. PLAGGMEYER, M.D.

Jakšy, J.: The Hydronephrotic Bases of Renal Atrophy (Ueber die auf hydronephrotischer Grundlage entstandene Atrophie der Niere). *Ztschr. f. urol. Chir.*, 1935, 40: 395

In experiments on rabbits the author ligated one ureter completely and then studied the functional and pathologico-anatomical changes from the day after the ligation to the twenty-fourth month. In the specimens the origin and development of hydronephrosis, atrophy and degeneration of the parenchyma, and the changes in the fluids collected in the ligated kidney were observed. The findings are shown by diagrams and photographs.

In the author's opinion the atrophy of the renal parenchyma after ligation of the ureter is caused by the eccentric pressure produced on the parenchyma by the constant increase in the fluid in the renal pelvis due to compression of the interlobular arteries and veins. In the beginning it is observed that the substance of the medulla and the cortex decreases to the same degree as the dimensions of the renal pelvis increase. Soon, as the result of atrophy of the

papilla and pyramids, there are formed in the parenchyma large cavities which with the dilated renal pelvis present the picture typical of hydronephrosis. The parenchyma steadily decreases and its greater part is crowded against both poles of the kidney. After the eleventh and twelfth months in the experiments reported the parenchyma was found only at the poles. While the renal tissue was reduced to about 0.5 mm in thickness, the pyelorenal sac was several times greater than in the normal kidney.

Microscopically the atrophy of the renal parenchyma was plainly discernible. It was attributed to the mechanical stretching due to the retention of urine. Simultaneously with the progressive atrophy of the epithelial cells there occurred a marked connective tissue proliferation. In addition to the interstitial development of connective tissue examination disclosed flattened papillae, extreme dilatation of the tubules and uriniferous canals, flattening of the epithelial cells and a marked anemia of the kidney. In the last stage of complete atrophy the kidney was changed into a large cystic sac with fluid contents which contained scarcely any urea. In the remaining renal tissue isolated degenerated glomeruli were seen. The maximal hydronephrosis was observed between twelve and fourteen months after the ligation of the ureter. The cystic tumor then began to diminish. The author calls this process described 'atrophia hydronephrotica'.

(L. DUCHEL) MATTHIAS J. SEIFERT, M.D.

Romani A. Contribution to the Study of Enterorenal Fistulas. Massive Tuberculosis of the Kidney and the Left Renal Space with the Formation of a Fistula into the Colon and to the Exterior. (Contributo allo studio delle fistole enterorenali. Tuberculosis massiva del rene e della loggia renale sinistra fistolizzata nel colon e all'esterno). *Arch. ital. di urol.* 1935 12 381.

The case reported was that of a man thirty-seven years old who was wounded several times during the war. Subsequently he developed cervical adenitis, pneumonia and enteritis, underwent an orchidectomy for tuberculosis, experienced frequent attacks of renal colic at the left side and developed pleurisy with effusion on the left side.

Later he noticed frequency of urination for which he consulted a urologist. The urologist performed cystoscopy and catheterization of the ureters. No tuberculous lesions were found at that time.

Soon thereafter a cold abscess appeared in the left costal region. This was repeatedly emptied by aspiration but finally developed into a fistula. Nine months later a carious portion of the left eleventh rib was resected.

In spite of heliotherapy and other therapeutic measures the fistula failed to close and new fistulas appeared in the lumbar and sacral regions.

Once the patient noticed that from one of these fistulas there was an escape of gas accompanied by a sibilant noise.

Physical examination revealed the presence of a fistula at the left base of the thorax corresponding

to the level of the eleventh rib immediately behind the posterior axillary line. Several other fistulas were found in the left lumbar region. Pus escaped from each of the fistulous passages.

The abdomen was somewhat distended and palpation of the left segment elicited marked muscular rigidity. A mass extending from the left costal arch down to the posterior iliac crest was felt somewhat indistinctly.

X-ray examination disclosed the presence of two fistulous passages—one extending from the left renal space to the exterior and the other extending from the large intestine into the renal space.

Under morphine ether anesthesia and with the patient lying on his right flank an incision was made from the left iliohumeral region to the eleventh rib. Resection of the eleventh and twelfth ribs exposed a large indurated mass which was identified as the kidney. The mass was removed. The postoperative course was somewhat stormy, but recovery ultimately resulted.

On examination the removed kidney was found to be enveloped by an almost rigid and greatly thickened capsule. On the anterior aspect there was a passage through which a large caseating focus was in direct communication with the exterior. A similar passage was found at the upper pole.

In discussing the anatomopathological features of this case, the author explains the mechanism which led to the formation of the fistulas.

In conclusion he discusses briefly the symptoms, diagnosis and treatment of the condition and emphasizes the importance of postoperative heliotherapy.

RICHARD F. SOWMI

Marcucci G. The Treatment of the Ureter Remains After Nephrectomy (Trattamento del moncone ureterale dopo nefrectomia). *Clin. chir.* 1935 11 422.

The author briefly reviews the literature which indicates that the normal ureter remaining after nephrectomy retains all its functional capacities though in some instances a gradual slight atrophy of the coats of the ureter may occur. He then discusses the development of urinary fistulas in resectory wounds as the result of slipping of the ligature on the ureter and the reflux of urine from the bladder into the wound. He states that when the remaining ureter is involved in the pathological process it may continue to contain pus which may cause persistence of the cystitis or a flow of pus from the wound. In some cases the inflammation may subsequently spread through the wall of the ureter and produce a retroperitoneal cellulitis or an abscess. In this complication tuberculosis is especially important. Occasionally after nephrectomy the process in the ureter heals and the ureter is converted into a solid connective tissue cord. More often a fistula results. Therefore many surgeons reserve most of the ureter with the kidney.

To determine the possibilities of chemical coagulation of the ureter Marcucci carried out experi-

ments on rabbits. He injected a 2 per cent solution of iodized alcohol and after varying periods killed the animals and examined the ureters macroscopically and microscopically.

In general the results indicated a complete connective tissue transformation of the entire ureter. Destruction and desquamation of the lining with hemorrhage into the lumen occurred early. Later, the caustic fluid acted more deeply, affecting the muscle. After three days there was evidence of necrosis with associated signs of aseptic inflammation. New connective tissue elements soon invaded almost the entire structure and lumen, gradually matured, and caused obliteration of the lumen by contraction. A LOUIS ROSE, M D

Foley, F. E. B.: The Management of Ureteral Stone: Operation Versus Expectancy and Manipulation. *J. Am. Med. Ass.*, 1935, 104, 1314

The author believes that in cases of ureteral stone expectant and manipulative treatment has been employed too extensively. He states that only stones no larger than a wheat kernel give any promise of prompt passage or easy removal by manipulation. Occasionally in cases of stones of this size and frequently in cases of stones which are only slightly larger expectant and manipulative treatment leads to difficulties, risks, and hardships. The severe pain of many colics may be required for the stone to progress into manipulative distance, and during its passage dilatation of the ureter and renal pelvis and extensive damage of the kidney may occur.

Foley removes any stone larger than a wheat kernel lying above the pelvic brim by open operation, preferably lumbar ureterotomy. For this operation he has perfected a technique which renders the intervention a relatively minor surgical procedure.

The operation is performed under local infiltration anesthesia with the patient in the kidney position, the elevator being raised only enough to widen the space between the rib and the ilium without putting the flank muscles under tension. An incision from 10 to 12 cm. in length is made on a line extending in a vertical oblique direction from the middle of the twelfth rib toward the anterosuperior spine of the ilium. The level of the incision on this line depends upon the level of the stone. Division of the skin and subcutaneous fat exposes the posterior edges of the external and internal oblique muscles and the anterior edge of the latissimus dorsi muscle midway between the twelfth rib and the iliac crest. These muscles are made freely mobile by blunt separation of their undersurfaces from the lumbodorsal fascia on which they lie. This permits the oblique muscles to be drawn well forward and the latissimus dorsi well backward, with exposure of a wide area of lumbodorsal fascia. The lumbodorsal fascia is then split parallel with its fibers with exposure of the posterior layer of the pararenal fascia. Except for a thin layer of intervening fat, this fascia lies directly in contact with the muscles of the posterior ab-

dominal wall, the quadratus lumborum, and the iliopsoas. It passes posterior to the ureter and kidney and onto the vertebral bodies medial to them. This fascia and the anterior layer of pararenal fascia form an envelope completely enclosing the perirenal and periureteral fat. Instead of immediately opening this fascia to approach the ureter through its surrounding fat, as is usually done, advantage is taken, in the dissection, of the clean cleavage plane between the posterior layer of pararenal fascia and the muscles on which it lies. By blunt dissection this cleavage plane is opened by gently stripping the fascia away from the muscles behind it.

The stripping is continued medially to the vertebral bodies and in an upward or downward direction, depending on the position of the stone. With the pararenal fascia and the contained fat elevated and held forward away from the muscles by a retractor, the ureter is seen as a pale ribbon-like streak running longitudinally 3 or 4 cm. lateral to the vertebral bodies and immediately under the fascia. The position of the stone is manifested by a bulge or can be determined by passing a finger along the course of the ureter. With a curved or somewhat hooked scalpel a longitudinal incision is made through the fascia and ureter over the stone and the stone removed. The ureter is not further explored, and no bougies or olives are passed into it. The opening in the ureter is securely closed with a continuous suture of No. 0000 catgut affixed to a fine atraumatic needle. The suture includes only the muscularis, the mucosa being carefully avoided. The wound is closed without drainage. The lumbodorsal fascia is closed with a continuous suture, but the muscles fall into place and do not require approximation.

The author states that this operation can be performed in from fifteen to twenty minutes and with practically no shock. The patients are out of bed on the second or third day and ready to leave the hospital after from five to seven days. The risk, damage to the kidney, hardship for the patient, period of disability, and uncertainty as to the outcome are very much less than in treatment by expectancy and manipulation. H. W. FLAGGEMEYER, M D

BLADDER, URETHRA, AND PENIS

Watts, J. W., and Uhle, C. A. W.: Bladder Dysfunction in Cases of Brain Tumor. A Cystometric Study. *J. Urol.*, 1935, 34, 10

The authors report the histories and cystometric findings in eleven cases of bladder dysfunction associated with brain tumor. The cystometric study showed a hypertonic curve in three cases and a hypotonic curve in eight. Urinary symptoms were present in all of the former but in only two of the latter.

The authors believe that the evidence presented shows bladder representation in the cerebral cortex, the region of the hypothalamus, and even more caudad in the brain stem, and that disturbances of the function, tone, and sensation of the bladder are

the result of lesions in certain parts of the brain or in tracts descending from them

DOUGLAS I. HIRSH, M.D.

Counselor V. S. and Braasch W. F. Diathermy for Carcinoma of the Bladder. *Ann. Surg.*, 1935, 101: 1418

In the treatment of bladder tumors considered non resectable on account of their situation in the base and neck of the bladder diathermy has been used at the Mayo Clinic since 1925. When the growths are large and pedunculated, they are partially removed by excision with the cautery and the remaining part of the neoplasm is subjected to thorough electrocoagulation.

In a recent review of the cases of 165 patients who lived five years or longer following various surgical procedures for malignant lesions of the bladder Counselor found that in 17 cases the lesions involved the base of the bladder, ureteral orifices or both, and were considered non resectable. In 14 of these 17 the lesions were treated by electrocoagulation alone. In 3 the major portion of the tumor was excised with the cautery and the base subjected to electrocoagulation. At the time of the follow up 15 of the 17 patients were alive and free from vesical symptoms.

Because of the favorable results obtained by the use of diathermy in this group Counselor and Braasch report these 17 cases in greater detail including data from the follow up records.

In 4 of the cases the lesions were of Grade 4 malignancy, in 5 of Grade 3, in 4 of Grade 2, and in 4 of Grade 1. The average age of the patients with lesions of Grade 4 was forty seven years, that of those with lesions of Grade 3 fifty four years, and that of those with lesions of Grade 2 fifty six years. It may be inferred that the younger the patient with a malignant lesion the greater the probability that the malignancy is of high grade.

In the cases of patients who were dead at the time of the previous report the malignancy of the lesions was graded 4, but only one patient died of recurrence.

Two other patients have died recently but not from carcinoma of the bladder. When the cases are analyzed further with respect to survival after operation it is seen that the patients living longer than 5 years are of an average grade of malignancy of 2.7, those living next longest had lesions of an average grade of 2.6, and those with the shortest period of life had lesions of an average grade of 2.7.

For many years it has been a routine procedure at the Mayo Clinic to request all patients who have been treated for malignant lesions of the bladder to return for postoperative cystoscopic examination every three months during the first year and at intervals of six months or a year subsequently until five years after the operation. Patients found free from recurrence at the end of five years are dismissed from the follow up records. In this manner many recurrent growths are discovered early and destroyed

by transurethral electrocoagulation before symptoms develop, the end results being therefore greatly improved. It has been repeatedly observed that early recurrences, even of lesions graded 3 or 4, will disappear after simple electrocoagulation.

During the entire follow up period only 2 of the patients developed recurrences. One of the latter had a lesion of Grade 1 and the other a lesion of Grade 4.

It is said that the extent of the necrosis produced by diathermy amounts to twice the diameter of the coagulating electrode and malignant cells are destroyed to a depth equivalent to 3 times the diameter of the coagulating electrode. In 5 of the cases reviewed the ureteral orifices could not be found as they were covered and partially occluded by the malignant growth. The tumor in these situations was electrocoagulated without regard to the ureteral orifices and in 2 instances the intramural portion of the ureter was opened by coagulation 1 cm above the ureteral opening. Complete healing resulted in every instance leaving a clean scar with the ureteral orifice occupying a depression in the scar. Troublesome ascending infection did not occur in any instance. Tumor tissue involving the urethral sphincter may be completely destroyed without subsequent incontinence or local recurrence.

Some postoperative deformity occurred in 3 cases and in each was associated with rather marked cystitis. In the 2 cases in which the deformity was most troublesome extensive lesions were partially removed by excision with the cautery. Although radium irradiation was used either alone or in combination with other procedures in many of the authors' cases it was not employed in any of the 17 cases reviewed.

It is the authors' impression that the advantage of diathermy as a transvesical procedure for operable or non resectable lesions of both high and low grades have not been sufficiently recognized.

GENITAL ORGANS

Putzu F. New Orientations in the Treatment of Hypertrophy of the Prostate (Nuovi orientamenti nel trattamento della ipertrofia della prostata). *Rassegna interna, di clinica e terap.* 1935, 10: 560

Putzu briefly discusses the pathological anatomy, symptoms, diagnosis and treatment of benign hypertrophy of the prostate. First among the palliative methods of treatment is catheterization. Putzu reviews the well known difficulties, disadvantages, and dangers of this procedure. Among the radical methods of treatment are prostatectomy and radiotherapy. Radiotherapy has found little favor. Endoscopic treatment is becoming more widely employed. After reviewing various reports on this method Putzu concludes that in the choice of treatment for a given case the risks and advantages of all methods should be taken into consideration.

EUGENE T. LEVINE, M.D.

Hoes, H.: Transurethral Treatment of Prostatic Hypertrophy (Zur transurethralen Behandlung der Prostatahypertrophie). 39 Tag d. deutsch. Ges. f. Urol., Berlin, 1935.

The author discusses briefly the indications for transurethral resection of the prostate. The limitations of this procedure as compared with those of the previous methods, suprapubic cystotomy and prostatectomy, prove the indisputable superiority of prostatectomy over all other methods, even the new method. The attempt should be made, as formerly, to perform a radical operation. In uncomplicated prostatic hypertrophy, both incipient and advanced, prostatectomy should be done whenever possible.

The new method seems to be contra-indicated by urethral immobility, severe bleeding, severe infection in the operative region, the absence of a mechanical hindrance to urination, the presence of an especially large tumor mass or generalized proliferation in which resection would not be sufficient, and chronic advanced urinary retention with complications in which there is immediate danger.

Theoretically, resection appears to be the method of choice in all of cases in which the usual indications for prostatectomy are not present. The indications for prostatectomy should be judged more rigidly than heretofore and the new method used in cases in which these indications are not presented. In this way the results of prostatectomy will be improved.

The new method may be employed in some of the cases which formerly were treated by suprapubic cystotomy. Of course, these should be the less severe cases. In this manner the establishment of a troublesome fistula will be rendered considerably less frequent.

As regards severity and danger resection is between suprapubic cystotomy and the radical operation, a fact of importance in the determination of its indications. (H. HOES) JOHN W. BRANNAN, M.D.

Grant, O.: The Treatment of Chronic Prostatitis by Injection. *J. Urol.*, 1935, 33, 631.

Prostatitis must be considered a mass of minute abscesses the deep location of which prevents the introduction of medicaments and the egress of infected material. The purpose of the injection treatment is to introduce medicaments directly into the gland through a needle. As prostatitis is almost invariably associated with seminal vesiculitis, both vasa are injected simultaneously in the scrotum.

The injection is made by way of the perineum or through the urethra. The anesthetic of choice is nitrous oxide oxygen. In injection by way of the perineum the bladder is filled with sterile water and the vasa are then exposed and injected with about 20 c.c. of a freshly prepared aqueous solution of 1 per cent mercurochrome. After this injection the patient is put in the lithotomy position, the prostate is palpated, and a non-breakable needle 8 in. long and of No. 20 caliber is introduced into the skin about 1 in. above the mucocutaneous border of the anus and passed down inward until it is felt by a

finger introduced into the rectum. The needle is guided to the left lobe of the prostate by the finger and then passed on for about $\frac{3}{4}$ in. into the gland body. From 5 to 10 c.c. of the solution are injected into the lobe. The needle is then withdrawn outside the capsule of the gland and inserted into the right lobe and the injection repeated. If the fluid passes too easily the needle is not in the proper position. When the needle is correctly introduced the gland is felt by the finger to distend. A good average dose in the gland is 20 c.c. After the injection has been made the needle is withdrawn with a slight flow of mercurochrome along its path of exit to sterilize its tract through the perineum, the prostate is massaged with the finger in the rectum to disseminate the mercurochrome, and the bladder is emptied.

The urethral injection is accomplished through a specially constructed needle introduced with the McCarthy proctoscope under direct vision. The needle is inserted for $\frac{3}{8}$ in. into first one lateral lobe and then the other. From 5 to 10 c.c. of the solution are injected into each lobe. For treatment of the smaller glands the urethral method is the easier. However, both methods serve the same purpose. In severe posterior urethritis and cases in which endoscopy is difficult or unwise, the perineal procedure is the method of choice. A mild posterior urethritis with terminal hematuria and some pain on urination may follow the treatment, but subsides after the instillation of a few drops of 1 per cent silver nitrate or the oral administration of sandalwood oil.

The follow-up treatment consists of the application of heat to the gland by the Bransford-Lewis heater or by seating the patient over a commode fitted with carbon electric lamps, and massage of the prostate about every fifth day. This treatment should be continued until all the pus has disappeared and cultures of the secretion massaged from the prostate are sterile. As a rule it must be continued for from three to five weeks. Occasionally it must be repeated. Foci of infection should be eradicated.

LOUIS NEUWELT, M.D.

Rosenberg, W.: Abscess of the Testicle. *J. Urol.*, 1935, 34, 44.

The author reports six cases of abscess and one case of necrosis of the testicle. Four of the abscesses were due to gonorrhea and two to chronic urinary tract infection. The necrosis was due to torsion.

On the basis of their cause abscesses of the testicle may be classified into the following four groups: (1) those due to gonorrhea, (2) those due to chronic urinary or genital tract infection, (3) those due to torsion of the spermatic cord, and (4) those due to a systemic infection such as typhoid fever and variola.

Abscess of the testicle usually results in complete destruction of the testicle. Therefore early diagnosis and treatment are important for maximal preservation of the testicular tissue.

ANDREW McNALLY, M.D.

Cutler M and Owen, S E - The Clinical Value of Prolan-A Determinations in Teratoma Testis
Am J Cancer 1935 24 313

The authors report determinations of Prolan A made on the urines of sixty six men suffering from teratoma testis. The amount varied between 50 and 16,000 mouse units. In the cases of thirteen men with benign lesions of the testicle the urine contained less than 50 mouse units of Prolan A per liter.

The authors agree with Ferguson that quantitative determinations of Prolan A in the urine will serve as a guide in the diagnosis, prognosis and treatment of teratoma testis. The excretion of Prolan A is decreased when irradiation treatment is successful in producing a regression, but remains unchanged or becomes increased when the tumor fails to respond to the treatment. The test may be used also in following up patients treated for teratoma of the testicle.

FRANK M COCKRENS MD

Hilman F and Powell T O - The Gonadotropic Hormone in the Urine of Men with Tumor of the Testis
J Urol, 1935 34 55

As the pituitary gland, pregnancy and embryonal tumors are known to cause the appearance of gonad stimulating hormones, the authors believe that the stimulation of the growth of the gonads and genital organs in infantile mice and rats varies with the origin of the hormone producing it and the amount of the hormone present in the urine. They state that quantitative tests for the hormone may be made on as little as 250 ccm of fresh unaltered urine and if they are positive a qualitative test may be made.

They found mice to be better animals for diagnosis than rats. Rabbits were unsatisfactory.

The authors believe that the majority of testicular tumors are embryonal and that injection of their hormones into infantile mice and rats causes gross enlargement of the uterus and macroscopic ripening of the ovarian follicles.

A positive reaction is evidence of malignancy of the testicle. The therapeutic test of irradiation is of little value in the prognosis. Its results must be interpreted in the light of the histological structure of the tumor and that of the clinical and physical findings.

The authors believe that the hormonal test is of value in prognosis and control of treatment, and may be of value in the classification of tumors.

DONALD K. HINNS MD

Hilman F - The Prognosis and Treatment of Tumors of the Testis
J Urol 1935 34 77

The author discusses (1) the diagnosis of tumor of the testis based on the amount of hormone in the urine before castration and the pathological classification of the tumor (2) the clinical evidence of metastasis and the evidence supplied by the amount of hormone present two weeks after operation and (3) the radiosensitivity of such tumors which he determines from the clinical effect on metastases and the effect on the hormone. On this basis he divides the patients into two groups (1) those without clinical evidence of metastases and in good physical condition whom he further classifies according to the findings of the hormonal test two weeks after operation and (2) those with clinical evidence of metastases.

He analyzes fifty four cases giving the results of radical operation and his classification of the neoplasms.

DONALD K. HINNS MD

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Meng, C. M., and Chen, H. I.: The Association of Intrathoracic Lesions with Bone and Joint Tuberculosis. A Study of 100 Cases *J Bone & Joint Surg*, 1935, 17 552

The authors reviewed 100 cases of their own and cases reported in the literature to determine the frequency of intrathoracic lesions in cases of bone and joint tuberculosis. All of their patients except 1 were Chinese. Their average age was twenty-two and six-tenths years. Sixty-six per cent had discharging sinuses. In the cases of 96 per cent the diagnosis of tuberculosis was proved by pathological examination. Seventy-eight per cent showed evidence of intrathoracic lesions, and of these, 47 per cent had pulmonary tuberculosis.

The authors therefore believe that there is a close relation between intrathoracic lesions and bone and joint tuberculosis, and that more attention should be paid to intrathoracic infection as a probable primary focus. They emphasize that treatment should not be discontinued as soon as the peripheral lesions have been eliminated. PAUL C. COLONNA, M.D.

Rutishauser, E., Broccard, R., and Bianchi, M.: How Soon After the First Injection of Parathormone, Glucose, or Lead Salts Do the First Signs of Osteitis Fibrosa Appear? (A quel moment après la première injection de parathormone, de glucose, ou de plomb voit-on apparaître les premiers signes d'ostéite fibreuse?) *Presse méd*, Par., 1935, 43 789

The authors have produced osteitis fibrosa in guinea pigs—the endogenous form by injecting parathyroid and thyroid gland preparations, and the exogenous form by giving metallic salts, glucose, and other substances which produce acidosis.

In one experiment parathyroid tissue obtained from a man killed in an accident was grafted under the periosteum of the femur of a guinea pig. Within ten hours a slight generalized osteoclasia was noticeable. This was no more marked at the site of the graft than elsewhere. When the procedure was repeated on a rat the same result was observed. The bone changes were only temporary. By the end of eighteen hours they had disappeared.

Within an hour after the injection of any of the preparations an increase in the blood calcium and phosphates could be easily detected. This change was followed by the appearance of the osteoclasia. Four or five hours after the injection a distinct change in the staining character of some of the cells of the endosteum and of those on the borders of the haversian canals was apparent. Various forms of

osteoclasts could be differentiated in the haversian systems and endosteal region. Some were fusiform, some had a single nucleus, and some were multinuclear. Some apparently absorbed the bone and others were inactive. In general, the bone metabolism and histological aspects of the absorption were the same after injections of parathormone, lead salts, or glucose, but it is difficult to say whether the mechanism of their production was identical.

The time at which the changes in the serum calcium appear varies in different species of animals. In the dog they are noted after four hours, and in the cat, after a few minutes.

In man, the injection of parathyroid hormone is followed by diminution of the phosphorus of the blood with the exception of the lipid-soluble form. In animals, injections of thyroid hormone and the implantation of thyroid tissue has not been found to produce skeletal changes.

In conclusion the author calls attention to the necessity of differentiating between the osteitis fibrosa of Recklinghausen and Paget's disease.

WILLIAM ARTHUR CLARK, M.D.

Bernabeo, E.: Parathyroidectomy and Recklinghausen's Disease (Paratiroidectomia e morbo di Recklinghausen) *Clin chir*, 1935, 11 309

The author reports a case of Recklinghausen's disease in which no parathyroid adenoma was found on surgical exploration, but a good result was obtained following the extirpation of two normal parathyroids. He then discusses the symptoms, pathogenesis, and therapy of Recklinghausen's disease.

PETER A. ROSI, M.D.

D'Harcourt, J., and D'Harcourt, M.: A Contribution to the Study of Volkmann's Ischemic Contracture (Contribución al estudio del síndrome de contractura isquémica de Volkmann) *Medicina*, Madrid, 1935, 6 237

This article is based on the cases of twenty-seven children and two adults with Volkmann's ischemic contracture. In the children the condition followed supracondylar fractures of the humerus, in one adult it developed after a Colles fracture, and in the other adult, it affected the extensor muscles of the foot following a fracture of the leg. The authors present a comprehensive discussion of the pathology, theories of origin, symptoms, diagnosis, prophylaxis, and mechanical and operative methods of treatment.

They state that various intrinsic and extrinsic factors contribute to the development of the syndrome—an increase of carbon dioxide in the tissues consequent to the edema, anoxemia; and an accumulation of lactic acid in the muscles which causes permanent contracture and eventual death of the

muscle cells. The predominant factors vary in different cases. In some cases the condition is caused by external mechanical conditions. In others especially those of unreduced supracondylar fractures the pressure of a large hematoma is responsible. The rarity of paralysis of peripheral nerves makes it probable that direct compression of the muscles plays the decisive rôle. Vascular factors are much less important than is usually thought. Although trophic changes are usually present the theory of a sympathetic origin is not supported by the findings of experimental investigations. It is probable that sympathetic disturbances only contribute to the complex lesion.

At operation, the authors have constantly found arterial contraction due to irritation of the peri-vascular plexus. In the course of experiments for other purposes they have occasionally produced massive necrosis of a limb by very high ligation without extirpation of the lumbar sympathetic chain. When progressive ligations with fascia were made according to MacNealy's method a condition resembling Volkmann's contracture sometimes occurred. They state that the supplementary circulation of a limb takes place principally through the muscles of the limb and compression of the small collateral arteries by edema greatly hinders the vicarious circulation through the muscles. The syndrome will occur in any muscle subjected to direct compression intrinsic or extrinsic which is followed by pressure necrosis and aggravated by deprivation of the blood and nerve supply.

In discussing the prophylaxis of Volkmann's ischemic contracture the authors stress particularly prevention of the formation of large hematomas and avoidance of circular pressure and exaggerated hypercorrection in fractures around the elbow. They state that continuous elastic traction on the fingers should be begun immediately when it is found that the condition does not yield to simple measures. They have devised a simplified form of the Bielesky-Mommsen apparatus. This consists essentially of a curved rod which is attached to the dorsum of the wrist and terminates in a crossbar on which five rings are hung by rubber bands. The rings are bound to the fingers by adhesive tape and the tension is regulated by means of the bands.

In a case of Volkmann's contracture of the leg the authors performed a periarterial sympathectomy of the anterior tibial artery. The subjective and objective improvement was marked. They have repeatedly practised external neurolysis on the median and ulnar nerves. According to their observations lesions of the median nerve respond better than lesions of the ulnar nerve. The latter respond very unfavorably. They have twice tried Bailey's procedure of moving down the origins of the epitrochlear muscles but the results were not good. In old contractures in which flexion of the wrist dominates the picture, cubeliform resection is indicated. Complete extension of the fingers by means of Z-form tenoplasties is impossible.

The operation on the upper limb which is most logical and least traumatizing and has given the best results in the authors' cases is the ingenious procedure of Juanisti. This consists in elongating one group of flexors in the forearm at the expense of the other, thus converting them into a single group of sufficient length to overcome the contracture. The superficial group is divided just above the wrist and the deep layer 5 or 6 cm. higher. The proximal segments of the superficial muscles are sutured to the distal ends of the deep muscles and at the same time the fingers are placed in extension. In muscular retraction in other situations operations to diminish the muscular tension by shortening the bones are indicated. This type of operation is not justifiable in the upper extremity, but may be very serviceable in the foot. In a case of Volkmann's syndrome of the leg the authors removed the proximal phalanges of all the toes, attaining a perfect functional result without affecting the stability of the foot.

The article is illustrated by sketches, diagrams, photographs and photomicrographs and is followed by a bibliography. M. E. MOSS, M.D.

McMurray, T. P. Osteo Arthritis of the Hip Joint. *Brit J Surg* 1935 22 716.

This article deals especially with the treatment and end results in a series of eighty nine cases of osteo arthritis of the hip joint treated during the past fifteen years.

The average age of onset of the condition was fifty three years in bilateral cases and thirty four years in unilateral cases. In several of the unilateral cases it was possible to demonstrate the occurrence of a lesion such as osteochondritis (Legg Calve Perthes) or partial slipping of the epiphysis earlier in life. Alteration in the shape of the femoral head from any cause predisposes to osteo-arthritis of the hip joint. Metastatic infection is probably of etiological importance in bilateral cases and trauma in unilateral cases. The two types are quite similar in their clinical symptoms and show only minor morphological differences. Roentgen examination discloses a loss of joint space due to thinning of the articular cartilage. In bilateral cases the head is usually normal in shape but in unilateral cases it is flattened on top so that the top of the neck and the top of the head are on the same level.

The usual methods of physical therapy give only temporary relief from the subjective symptoms. When bone changes are present permanent relief can be obtained only from surgery. Manipulation to increase the range of motion may be indicated in some cases. Of twenty seven of the author's cases in which it was tried it failed completely in nine and gave only temporary relief in seven. Successful results require free active motion four times a day after the manipulation. Treatment by rest and protection of the joint gives relief, but is usually followed by recurrence of the pain and disability after a few months or years. The operative procedures employed most frequently are (1) arthro-

plasty, (2) pseudarthrosis, or the formation of a joint close to, but not at, the original joint site, (3) arthrodesis, or complete destruction and stiffening of the joint, and (4) osteotomy to change the weight-bearing line—the bifurcation operation

Arthroplasty was done in seven of the author's cases. In five, the results were so disappointing that the patients readily agreed to a second operation for arthrodesis. In the two others the patients were satisfied with the improvement although the results were not perfect.

The cases for which pseudarthrosis is indicated are those with bilateral ankylosis in adduction and those in which the lumbar spine is stiff. This operation was done in four of the reviewed cases with good results as regards motion, but with the sacrifice of some stability. A large portion of the neck and upper end of the femoral shaft is removed and the trochanter re-attached to the head and remaining portion of the neck. The shaft is then set under the trochanter where a false joint will be formed.

The most satisfactory of all surgical procedures for the relief of unilateral arthritis of the hip is arthrodesis. The extra-articular method should be combined with the intra-articular method. The head of the femur should be removed and completely denuded of all articular cartilage before it is replaced in the acetabulum. A bone graft should be turned down from the wall of the ilium and laid across the joint. In six of the author's seventeen cases in which arthrodesis was performed, bony union failed. In all of these six the operation was performed by the intra-articular method only. Pain in the hip is relieved when bony ankylosis is obtained, but in a few cases pain develops in the lumbar region because of the extra-function placed on the lumbar spine by the stiff hip.

The Lorenz bifurcation operation consists in making an oblique osteotomy of the femur just above the lesser trochanter, slanting upward from without, and then displacing the shaft inward and slightly upward. The shaft unites in this new position after four or five months in plaster, and the change in the weight-bearing line is easier on the hip joint. For patients who are poor surgical risks, this is the operation of choice as it can be done in fifteen or twenty minutes with minimal shock. In twelve of the author's fifteen cases in which it was done the results were excellent. In three, they were poor because the shaft was not properly displaced after the osteotomy. WILLIAM ARTHUR CLARK, M D

Spaulding, H. V.: *The Traumatic Knee. Ann. Surg.*, 1935, 102: 115

Of 146 knee-joint operations, 12 were performed for fractured patella, 12 for joint mice, and 83 for lesions of the semilunar cartilage. Four patients required a second operation because of lesions overlooked at the first operation. In 1 case there was an extra-articular infection.

For fracture of the patella the author advises early surgery with an incision below the line of

fracture, no irrigation of the joint, and the use of absorbable suture material (kangaroo tendon). He states that delay of operation is indicated only when there are skin abrasions.

Following a discussion of the mechanism of meniscus injury, Spaulding says that the essentials for the diagnosis of such injury are a history of sudden violence of a twisting type with the knee in flexion followed by pain and effusion with or without locking, marked tenderness at the site of the lesion, lack of response to physical therapy, and later a flexion defect due to muscle atrophy. Roentgen examination shows nothing abnormal.

Tears in the internal lateral ligament are rarely complicated by fluid in the joint and never cause locking. They are accompanied by localized tenderness and by pain which is increased by abduction of the leg with the knee extended.

Locking caused by a foreign body can often be diagnosed by palpation and usually by roentgen examination.

Three other knee conditions sometimes producing symptoms are osteo-arthritis dissecans, which can be diagnosed by roentgen examination; tears of the crucial ligaments, which are due to severe violence and allow anteroposterior mobility of the flexed knee, and pinched fat tabs (Hoffa's disease), which can be diagnosed by exclusion.

Meniscal lesions should be operated upon as soon as they are diagnosed. Physical therapy is contraindicated. At operation, a tourniquet is not necessary. A small bloodless incision should be made and the intra-articular structures handled gently. In the author's cases a circular cast is applied for four days. On the seventh day the sutures are removed and gentle passive motion is begun. The patient is discharged from the hospital at the end of two weeks. The average period of disability is from six to ten weeks. CHESTER C. GUY, M D.

Darrach, W.: *Internal Derangements of the Knee. Ann. Surg.*, 1935, 102: 129

Internal derangement of the knee may be due to one or more of several pathological conditions. The latter include loosening, tearing, and fraying of the menisci, disorders of the synovia, the lateral and crucial ligaments, and the periarticular structures, and loose bodies in the joint. The patient with an internal derangement of the knee usually complains of attacks of pain in the knee and locking, slipping, catching, or giving way of the joint. These attacks occur suddenly and are followed by more or less swelling. The history is usually about the same regardless of the nature of the lesion. It should be taken carefully and a thorough examination should be made. An accurate differential diagnosis is difficult. It should be remembered that swelling of the knee following injury is due to an effusion of blood. Effused blood is nearly always found on aspiration and indicates that some structure has been torn.

Of the author's cases, operation disclosed a single lesion in 25 per cent, two lesions in 25 per cent, and

three or more lesions in 50 per cent. Darrach disapproves of the small buttonhole incision with only the removal of a meniscus. He urges the use of a larger incision and as thorough inspection of the joint is possible. He states that operation is often postponed too long.

As the stability of the knee depends mainly on the action of the thigh muscle, the tone of these muscles must be maintained. The patient should practice contracting the thigh muscles before the operation on the knee and should be urged to start active use of the knee as soon as possible after the operation. The author applies no cast after the operation and often has his patients walking in a week. As he does not believe that the crucial ligaments are of much value in maintaining the stability of the joint, he makes no attempt to repair them when he finds them torn.

CHRISTOPHER C. CUY, M.D.

Casini, A. Malignant Epithelioma on an Old Osteomyelitic Focus of the Tibia—So Called Adamantinoma of Fischer? (Epithelioma maligno su antico localio osteomielitico della tibia—così detto adamantinoma di Fischer?) *Londin*, Rome 1935, 42 sez. chir. 338.

The case reported was that of a man fifty five years old. At the age of seven years the patient suffered a compound fracture of the tibia and fibula. Infection developed at the site of the fracture, but the wound closed by the end of the seventh month. A year after the accident there appeared on the anterior aspect of the leg a small ulceration from which a small quantity of purulent material exuded. After a time the ulcer healed spontaneously. Five years later the patient suddenly noted a sense of heaviness in the leg associated with a deep dull pain which was most pronounced at night. The leg then increased in size and a large ulcer developed.

The general findings on examination were essentially negative, but on the anterior aspect of the right leg there was a large ulcerated area extending from a point three fingerbreadths below the knee to a point four fingerbreadths above the tibiotarsal articulation. The ulcer was ovoid with its long axis directed longitudinally. Its margins were raised and indurated. Its base was occupied by thick fleshy masses and in certain places was covered with a grayish exudate. Bleeding occurred easily.

I centgenograms disclosed a marked deformity of the tibia and fibula with hypercalcification obliteration of the bone marrow cavities and in the region of the middle third of the tibia an excavation of the bone about the size of a lemon which occupied the anterolateral aspect of the shaft and extended practically through its entire thickness.

A piece of a fleshy vegetation was removed for biopsy. Histological examination revealed a typical malignant epithelioma. On the basis of this finding the leg was amputated. The patient made an uneventful recovery.

In discussing the case the author expresses the opinion that the development of malignancy may

have been favored by the chronic inflammation accompanied by destruction of cellular elements, the toxic action of micro-organisms, changes in the physicochemical properties of the tissue, or a combination of these factors.

The neoplasm had many of the characteristics of the adamantinoma of the tibia described by Fischer and others as a rather benign tumor which develops locally and does not tend to form metastases although it has a tendency to recur locally. Casini believes that the term adamantinoma should be restricted to tumors developing in the jaw.

RICHARD F. SOMMA

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Erlacher, P. J. The Radical Operative Treatment of Bone and Joint Tuberculosis. *J. Bone & Joint Surg.* 1935, 17, 536.

In his discussion of the radical operative treatment of bone and joint tuberculosis Erlacher emphasizes that the condition is not a primary disease of the bones and joints but a metastatic condition from an old and persistent focus and that its course is extremely chronic. He believes that the lesion is treated most satisfactorily by radical surgery. This form of treatment has three advantages: it gives reasonable certainty of healing, the tuberculous lesion and terminating the infection as soon as possible, it permits maximal preservation of function and its cost is commensurate with the results and not prohibitive.

The ideal surgical treatment is eradication of the focus. Resection which may be performed late in the disease is justified only in the cases of adults. Arthrodesis is fundamentally unsatisfactory as it merely compromises with the tuberculosis and does not eradicate it. While extra articular arthrodesis may be useful in isolated cases, the author contends that osteotomy may be of value to improve the function of a part by correcting its position.

The author bases his conclusions on a series of 276 cases. In 110 the lesions were circumscribed the type which he believes should be removed radically.

PAUL C. COLOVIA, M.D.

Radulesco, A. D. Curved Osteotomy of the Innominate Bone as Treatment for Ankylosis of the Hip in Poor Position. (*L'ostéotomie courbe de l'os coxal comme traitement de l'ankylose de la hanche vicieusement consolidée*) *Presse méd.* 1935, 43, 822.

The ideal procedure for ankylosis of the hip is restoration of motion by arthroplasty. As arthroplasty is contraindicated in cases of ankylosis following tuberculosis various methods of osteotomy for correcting poor position have been proposed. Those most commonly used are the subtrochanteric linear osteotomy (Gant), the cuneiform osteotomy (Whitman) and circular osteotomies. However in marked flexion deformities all of these osteotomies

result in an anterior angulation of the fragments which may cause disturbance of the nerve trunks or the blood vessels

To prevent such disturbances the author does an osteotomy in the pelvic bone just above the joint. An incision is made over the trochanter and the skin and fat flap turned upward. To expose the acetabulum and the ankylosed head of the femur the trochanter is sawed off and turned upward with its muscle attachments. With a curved chisel the osteotomy is then made around the roof of the acetabulum, outside the joint. When the block of bone surrounding the head is free the deformity is corrected. Any open spaces remaining are filled in with bone grafts obtained in the region of the osteotomy. The tissues are then sutured back in place and a plaster cast is applied. To facilitate walking, a stirrup may be added to the cast. The cast is left on for from eight to twelve weeks, depending on the age of the patient and the degree of the deformity.

This operation, which is not difficult, gives results superior to those of femoral osteotomy. It is performed preferably under local anesthesia.

WILLIAM ARTHUR CLARK, M D

Del Torto, P.. The Treatment of Congenital Club-Foot (Il trattamento del piede torto congenito)
Ann Ital di chir, 1935, 14 113

The author reviews the cases of 215 patients representing 344 clubbed feet.

In the cases of infants who had not begun to walk the treatment consisted principally of manual modeling of the foot and the application of a retention bandage. At about the age of three months plaster splints are used easily.

In the cases of children from ten months to two years of age the treatment was the same as in the first group plus the occasional performance of fasciotomy and tenotomy.

The cases presenting the greatest variation in the indications for treatment are those of children from two to six years of age. In many of the reviewed cases in this group forced manipulation was done under anesthesia, but more often the foot was operated upon for correction and then maintained in plaster splints.

In the cases of patients from seven to ten years old, the age at which the skeleton is beginning to take definite form, tenotomy and operations on the ligaments were performed more frequently and osseous plastics were done occasionally.

In the cases of patients eleven years of age and older the treatment was almost exclusively surgical. The operation preferred was cuneiform tarsectomy.

The author states that at all ages the treatment must be continued until the patient is able to pronate and dorsiflex the foot. Until then the foot must be held with plaster or a splint in a hypercorrected position. The treatment may require several months and sometimes several years. The majority of poor results are attributable to too early removal

of the plaster splints. Supervision is advisable even after an apparent cure. A LOUIS ROSE, M D.

Bugyi, I: Radical Operation for Hallux Valgus (Ueber die Radikaloperation des Hallux valgus).
Chirurg, 1935, 7: 137.

Operative procedures for the correction of hallux valgus may be classified into four groups according to whether they attack the bone, the joint, or the soft parts or a combination of these parts. At the time that Kirschner was director at the Tuebingen Clinic, very good results from simple chiseling off of the exostosis by the Schede method were reported from that clinic. However, Bugyi prefers resection of the head of the first metatarsal bone by the method of Hueter. His method differs slightly from that of Hueter in that he does not scrape away the cartilaginous surface. This variation was suggested by Leonte. Hueter sought bony union between the phalanx and the stump of the metatarsal, whereas Bugyi seeks the gradual development of a new joint. Bugyi's technique is as follows.

Local anesthesia is induced and the bursa and overlying skin are excised. If possible, opening of the bursa is avoided in order to prevent infection. The joint is opened and the head of the metatarsal is skeletonized. The head is then removed with a Gigli saw and the medial edge of the stump is smoothed with a Luer cutting forceps. The periosteum of the stump is then cut around and scraped off toward the periphery to prevent the formation of exostoses about the edge of the stump. The capsule of the joint and the skin are closed by suture. No plaster-of-Paris dressing or splint is applied. The toe is held in the desired position by means of a bandage. After ten days the dressing is changed. After fourteen days the patient is permitted to stand on the foot, wearing an "ordinary sandal" with the usual inlay for flat-foot.

Of thirty-one cases reviewed, the operation was done on both feet in twenty-five and on one foot in six. Twenty-eight of the patients replied to follow-up letters. Nine stated that they were quite satisfied with the result, fourteen, that the condition was considerably better, and five, that they were dissatisfied with the result. The dissatisfied patients were of the asthenic type and had undergone the operation for cosmetic reasons rather than because of pain or occupational disability. Bugyi concludes that in the cases of such patients the Schede operation should be done first and if severe pain, pronounced bone changes, or advanced deformity occur after that procedure, the Hueter operation may be done later. (PLENZ) JOHN W BRENNAN, M D

FRACTURES AND DISLOCATIONS

Dunlop, J.. Traumatic Separation of the Medial Epicondyle of the Humerus in Adolescence
J Bone & Joint Surg, 1935, 17 577.

The author discusses separations of the median humeral epicondyle on the basis of fifteen cases

which have come under his observation in the last four years. He believes that the productive mechanism is a pulling away of the epiphysis by muscle action followed by breaking open of the joint from the side and if progressive a giving way of the bone structures to the lateral side. In one of his cases in which the displacement was slight, closed reduction was satisfactory.

For most cases, Dunlop advises operation with suture of the bone fragment in as good a position as possible.

He reports several cases and presents illustrative roentgenograms.

BARBARA B. SIMMONS, M.D.

Lupaccioli G. Fracture of the Cervical Spine from the Standpoint of Roentgenological Investigation (Fratture del rachide cervicale all'indagine radiologica). *Radiol med* 1935 22 529.

The author emphasizes the necessity of checking the roentgen findings in cases of suspected fracture of the cervical spine by careful consideration of the clinical history and the findings of physical examination. He points out that especially the first and second cervical vertebrae frequently show congenital variations and developmental failures which may be easily interpreted as traumatic lesions.

He emphasizes also the importance of an exact technique in roentgenography of the cervical spine particularly as regards the first and second vertebrae. He states that an anteroposterior roentgenogram should be taken through the open mouth and a lateral roentgenogram taken with the patient sitting, a 2 meter focal distance being used.

After tracing the development of the first and second cervical vertebrae he reviews cases of atlas and axis fractures reported in the literature discussing the mechanism of the various types of frac-

tures with and without luxation and reviews the bony and articular anatomy of the first and second cervical vertebrae. The anatomy and physiology of the rest of the cervical spine are discussed in some detail with particular reference to the intervertebral disks and the various types of reported fractures and luxations of the cervical spine are analyzed with regard to their mechanism and with regard to the roentgen findings including the changes secondary to damage to the disks. To illustrate the various points in the discussion the eleven cases coming under the author's observation are reported with roentgenograms.

The article is followed by a bibliography.

BARBARA B. SIMMONS, M.D.

Millis G. P. A Modification of Whitman's Treatment for Fracture of the Neck of the Femur. *J Bone & Joint Surg* 1935 17 679.

In order to make the Whitman operation lighter and less cumbersome and to prevent troublesome stiffness of the knee the author has devised a modification of the Whitman treatment. Under general anesthesia a Kirschner wire is driven through the femur at the upper part of the condyles, tightened and fastened to the horseshoe or yoke. Reduction is accomplished while an assistant maintains traction by means of the horseshoe. A plaster spica is then applied from the mid-thoracic region to the level of the femoral condyles on the sides. This incorporates the wire and posteriorly is about 3 in. higher to allow knee flexion. When the patient is placed in bed the foot is allowed to rest on a stool and is supported by a sling attached to the yoke to prevent footdrop. Movement of the knee and ankle is possible after application of the cast.

BARBARA B. SIMMONS, M.D.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Edwards, E. A.: The Treatment of Varicose Veins: Is Systemic Disease a Contra-Indication? *J. Am. M. Ass.*, 1935, 104: 2077.

The author reports a study made to determine whether it is dangerous or unwise to treat patients suffering from systemic diseases such as diabetes, syphilis, and diseases of the heart, lung, and kidneys by the injection of sclerosing agents with or without ligation. One thousand consecutive patients, treated for varicose veins in the Circulatory Clinic of the Boston City Hospital were studied. Seventy-five of the patients had a preliminary ligation. All were treated by the injection of quinine and urethane or sodium morrhuate, and a few by the injection of solutions of sodium chloride and dextrose, or invert sugar.

Three hundred and seventy-five (37.5 per cent) of the patients suffered from at least one complicating serious systemic disease which, according to previous criteria, would have contra-indicated the treatment. Aside from syncope, there were only three reactions, all in women. In one case the reaction consisted of vomiting and dizziness, and in two cases, of uterine bleeding.

The author states that a consideration of the pharmacology of the substances injected suggests no contra-indication to their use in the presence of systemic disease. He believes that the relief of pain incident to varices, ulcers, and phlebitis, and of the infection present at least in ulcers may be of very definite value in the treatment of heart disease, hyperthyroidism, tuberculosis, and diabetes.

He concludes that the results obtained in the cases reviewed suggest that the injection treatment of varicose veins may be safely employed even in the presence of conditions in which it was previously considered contra-indicated. No bedfast patient should be injected for varices. During pregnancy, the treatment of individual segments of varices that are large and painful is desirable and safe provided the use of oxytocic substances is avoided. Sodium morrhuate appears to be the solution of choice.

HERBERT F. THURSTON, M.D.

this article, the first of a series, the authors report a study of the method and the results of such obstruction.

In nine dogs, ligation of the femoral artery was done after the injection of from 7 to 12 c. cm. of a 20 to 60 per cent aqueous solution of barium sulphate. In two dogs, the same procedure was followed by ligation of the femoral vein. In the control dogs, simple ligation of the femoral artery at its origin was done.

In the control dogs only a slight hypotonia of the leg resulted, and function was regained within a few days. In the cases of both groups of experimental dogs roentgenograms taken from one to two hours after the injection showed obstruction throughout the territory of the femoral artery. Microscopic examination demonstrated that the blocking was purely mechanical and not due to secondary thrombosis, and that it extended to the smallest branches. Complete obstruction of the femoral artery and its branches was followed in two or three days by moist gangrene of the limb which was rapidly fatal. Occlusion of the artery with concomitant ligation of the femoral vein caused mummification of the leg which was compatible with long survival.

The authors conclude that the gangrene is the direct and exclusive result of an arterial occlusion which prevents the establishment of a collateral circulation. It is initiated by local asphyxia and favored by the venous dilatation. There is a constant relationship between the extent of the obliteration and the possibility of the development of a collateral circulation. The time necessary for the development of gangrene is related also to the density of the barium suspension. When the suspension is thin, gangrene does not occur or appears very slowly.

Obstruction by an inert substance is the most satisfactory method of obliterating an arterial field. The next step is the study of the effect of sympathectomy following this procedure.

The article includes protocols of the experiments, roentgenograms, and photographs, and is followed by a bibliography.

M. E. MORSE, M.D.

Bernabeo, V., and Novara, L.: The Results of Total Arterial Obstruction. An Experimental Study (Sulle conseguenze delle ostruzioni arteriose totali—studio sperimentale). *Arch. ital. di chir.*, 1935, 39: 731.

The possibility of permanently occluding the entire arterial system of a limb with a radiopaque substance which will not injure the vessel walls or other tissues opens the way for research on the effect of purely mechanical obliteration of arteries. In

Mainzer, F., and Joel, W.: Periarthritis Nodosa as a Manifestation of Sepsis Lenta Due to the Streptococcus Viridans. (Periarthritis nodosa als Ausdruck einer Sepsis lenta—Streptococcus viridans). *Acta med. Scand.*, 1935, 85: 397.

In the case of periarthritis nodosa reported, the condition began after a severe throat infection, ran a mild course for three years, and then flared up and caused death after three months. Streptococcus viridans was found in the throat smears during the initial pharyngitis, was cultured from the blood

during life and was found in a biopsy specimen of a subcutaneous nodule. The disease involved the central nervous system, peripheral nerves, heart, peripheral arteries, kidneys, pancreas, liver and bowel. The clinical picture resembled that of endocarditis lenta.

On the basis of this case and the cases reported in the literature the authors conclude that periarteritis nodosa is usually due to a streptococcus infection.

LEO M. ZIMMERMAN, M.D.

Goldsmith G. A. and Brown G. E. Pain in Thrombo Angiitis Obliterans. A Clinical Study of 100 Consecutive Cases. *Am J M Sc* 1935 189: 819.

The authors state that the symptom of thromboangiitis obliterans which most frequently leads the patient to consult a physician is pain. In 90 of 100 consecutive cases pain was the initial symptom. In the study reported in this article the authors endeavored to ascertain and classify the types of pain and to determine their frequency and the mechanism by which they are produced.

The pain in occlusive vascular disease includes (1) that arising from the blood vessels themselves (2) that attributable to the ischemia of tissue including the nerves and (3) that attributable to infection. Pain arising from the blood vessels may be caused by spasm, stretching or inflammation, while pain attributable to the ischemia of tissues is probably the result of ischemia of the nerves.

In the 100 consecutive cases of thromboangiitis obliterans reviewed 2 major types of pain were noted: (1) pain brought on by exercise such as that of intermittent claudication and phlebitis and (2) pain occurring during rest. The pain occurring during rest was further classified as prethrophic and trophic (the latter resulting from ulcers or gangrene) that due to inflammation such as arteritis or phlebitis that due to acute occlusion with extensive ischemia that due to ischemic neuritis that due to vasospasm and that due to unclassified causes. The pain of claudication is apparently the result of some chemical substance formed during muscular contraction when the blood supply is deficient. Intermittent claudication occurred in 68 of the authors' 100 cases and marked the onset of the symptoms of the disease in 75. Ischemia of the large nerve trunks causes true ischemic degenerative changes in the nerve fibers. The pain of ischemic neuritis is fairly characteristic in that it occurs with rest and in the absence of trophic lesions and usually follows the sudden closure of one of the larger arteries of the limb. In ischemia there is no pain in the resting muscle; pain occurs only with exercise and is known as claudication.

The differentiation of the types of pain in cases of occlusive disease of the blood vessels is of importance from the standpoint of treatment. The relief of pain is a paramount problem. With the advancement of the recognition of the basis of pain treatment has become more effective. The use of the

newer tissue extracts (Roth) employed in the treatment of the pain of claudication has resulted in increased range of activity in a high percentage of cases. More effective control of the pain resulting from ulcers and gangrene has been obtained by rest, immersion of the affected parts in mild non-irritating solutions such as boric acid, the local use of astringent solutions, the induction of fever by foreign proteins, and occasionally section of the sensory branches of the peripheral nerve.

Sympathetic ganglionectomy has a definite field of usefulness in the prevention of recurring ulcers but is not carried out for the relief of pain. The pain of phlebitis and arteritis can frequently be controlled by roentgen therapy. Control of the pain of ischemic neuritis is at present a major problem. No entirely effective treatment is known. However the milder forms are self-limiting and can be controlled with mild analgesic drugs or alcohol by mouth and treatment with the roentgen rays over the lumbar portion of the spinal column. In several cases of the severe forms of neuritis chordotomy has been performed.

In conclusion the authors state that a decrease in the incidence of amputation in cases of thromboangiitis obliterans has been brought about largely by the effective treatment of pain.

HERBERT F. THURSTON, M.D.

Lloyd D. An Experimental Study of Carotid Subclavian Anastomoses. *Stadio sperimentale sull'anastomosi carotide uclavia*. *Arch Ital Chir* 1935 39: 79.

Lloyd carried out carotid subclavian anastomosis in dogs by the Carrel technique to determine its feasibility, the best method, the functional and anatomical results and the clinical application of the procedure. The carotid was ligated just below the bifurcation and the jugular vein was also tied off. The proximal end of the carotid was anastomosed to the peripheral end of the subclavian at the point of election which was just beyond the scale as anticus muscle. After intervals ranging from ten days to two months the animals were killed and the anastomoses studied by macroscopic and microscopic examination. The technique is described in detail and the protocols are given.

The procedure was entirely successful in nine of the ten animals. In one dog a septic thrombosis occurred. There were no cerebral symptoms and no vascular or nervous disturbances in the limb. Histologically the anastomoses healed normally.

These experiments demonstrate that carotid subclavian anastomosis can be carried out in animals with good immediate and remote results. In man the chief indications for the operation are an occluding thrombus of the first part of the subclavian due to cervical rib, wounds of the first portion of the artery which are not easily repaired by suture or plastic operations, aneurysms and all other intrinsic or extrinsic lesions which would require resection of the first portion of the artery with serious consequences to the arm.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Charbonnier A Getting the Patient Out of Bed Early After Abdominal Surgery (*La méth. de du lever précoce en chirurgie abdominale*) *Rev méd de la Suisse Rom* 1935 p 402

The procedure discussed was introduced into France by Chabier who described it as a combination of methods put in operation by the surgeon before, during and after the surgical intervention to allow the patient to become ambulant after the second to fifth postoperative days and to obtain a more rapid as well as a more certain recovery. By 1933 Chabier's cases in which this procedure was followed had increased from 150 to 740 without major accidents. The operations included appendectomies, operations on the biliary tract and stomach and hysterectomies, removal of fibroids and ovarian cysts and other gynecological procedures.

Charbonnier has used the method to his entire satisfaction after all types of abdominal operations since July 1931. In this article he directs attention to some of the more important points originally stressed by Chabier, adds observations from his own experience, summarizes his results and gives a brief history of each of his 112 cases. He believes that 2 of his patients were not suitable for the method. One of them was suffering from purulent cholecystitis with intestinal obstruction and the other from extreme cachexia due to malignancy. The former recovered after partial eventration and the latter died after a more complete eventration. In 8 cases there was pleural or pulmonary congestion of some degree but in all but 1 this developed soon after the operation, before the patient had been allowed up. Eight patients developed a stitch abscess, hematoma or suppuration of the abdominal wound but there were no serious sequelae from these complications.

Attention is called to the fact that the incidence of phlebitis and embolism is very low when the described method is used. This is probably explained by the prevention of venous stasis.

The patient must be hospitalized a full day before the operation. In the author's cases saline solution and glucose are given to improve nutrition or relieve dehydration. If possible, exercises are given to increase pulmonary ventilation and improve the peripheral circulation. Patients subject to respiratory infection are treated with vaccine.

Careful attention is paid to aërepsis, hemorrhostasis and closure of the wound. After the operation saline solution and water are given in large quantities. To combat shock the foot of the bed is raised on wooden blocks. The wound is dressed tightly and an abdominal binder then applied.

On the first day after the operation the attendant aids the patient in making pedaling movements with the legs. This exercise is preceded or followed by an alcohol rub. The patient is encouraged also to raise himself by grasping a trapeze suspended above the bed and to take deep breathing exercises.

On the second postoperative day the movements are increased and intestinal peristalsis is stimulated by rectal lavage.

On the third day the exercises include hanging the legs over the edge of the bed and semi-solid food is given.

At the visit of the surgeon on the fourth day if the condition of the abdomen, the pulse and the temperature are satisfactory the patient is carried to his chair and allowed to sit with his feet resting on the floor for from one half to one hour.

On the fifth day he is allowed to walk to the chair and to sit in it for two or three hours if his condition is satisfactory.

On the sixth day he is permitted to walk about the room.

On the ninth day walking up and down stairs is begun.

Between the twelfth and fifteenth days the patient is permitted to return to his home if he is able to be out of bed most of the time walking about or engaged in light tasks.

In cases in which there is extensive infection or drainage from the abdomen or vagina the patient is kept in bed for from fifteen to twenty days. In cases of operation for hernia he is kept in bed until the twelfth day because of the friability of the tissues and the ease with which hematomas are formed.

In cases of cardiac renal or hepatic deficiency, those of prolonged postoperative shock and those with severe hemorrhage the described routine is contra-indicated.

Charbonnier believes that early ambulant treatment is a step forward in surgical treatment as it will be found beneficial in at least 50 per cent of cases in which an abdominal operation is performed. For successful results it must be employed judiciously and carried out carefully.

The article is followed by a bibliography. All of the references except 1 are from the French literature.

MARSH W. FOWLE, M.D.

Oggioni G The Influence of Surgical Trauma on the Genesis of Postoperative Pulmonary Complications (*L'influenza del trauma chirurgico nella genesi delle complicazioni polmonari postoperatorie*) *Clin Chir* 1935 11 450

After briefly reviewing the literature on the incidence and pathogenesis of pulmonary complications following various types of surgery, the author

reports experiments which he carried out on rabbits to answer the following questions

1. What are the types of postoperative reactions in the lung?

2. Are these reactions related directly to the character and magnitude of the surgical intervention?

3. Do they predispose to subsequent bronchopulmonary complications?

Many operations of different types were performed, and after forty-eight hours the lungs were removed and studied histologically. The reactions were found to consist essentially of diffuse parenchymatous congestion, broncho-alveolar hypersecretion, and partial pulmonary collapse. Thickening of the interalveolar septa, whether due to capillary engorgement or to peri-alveolar muscular contractions, caused the lung to become completely atelectatic in places. There seemed to be a constant parallelism between the gravity of the operation and the intensity of the pulmonary reaction. The reactions appeared to be due to a simple reflex of a nervous or vasomotor nature which was proportional to the stimulus. It was found also that the reactionary changes in the parenchyma of the lung definitely predisposed to later invasion of the changed area by bacteria already present in that area or circulating in the blood stream.

A. LOUIS ROSE, M.D.

Snyder, H. E.: Postoperative Pulmonary Atelectasis. A Report of Eleven Cases. *Ann Surg*, 1935, 102, 5.

The author reports that in 1,276 cases representing operations of all types the incidence of postoperative atelectasis was 0.86 per cent. In a period of three years it was possible to lower the incidence of this complication from 1.52 to 0.37 per cent. The incidence after abdominal operations was 1.59 per cent. The author reviews various theories as to the cause of the condition, describes the signs and symptoms, and reports 11 cases in detail.

In discussing the prophylaxis of postoperative atelectasis he says that the possibility of this complication should be borne in mind especially in the cases of patients who are poor risks. The condition develops as frequently after local and spinal anesthesia as after ether anesthesia. Before and after operation sedatives should be given in moderation. During operation, pressure on the chest should be avoided. Ten per cent carbon dioxide should be administered during spinal anesthesia and for five minutes at the end of local or general anesthesia. Following abdominal operations carbon dioxide and oxygen should be given 3 or 4 times daily for forty-eight hours. The position of the patient should be changed every three or four hours after operation. Deep breathing should be encouraged. Dilatation of the stomach should be prevented by using the nasal tube at the first indication of gastric distention.

In the 11 reported cases the patient was rolled back and forth on the uninvolved side and percus-

sion applied over the involved lung. Carbon dioxide and oxygen were used in conjunction with the postural method of treatment. When other methods fail, undiluted whiskey may be of value in stimulating cough and expectoration. Bronchoscopic aspiration of the obstructing mucous plug may also be considered.

The author believes that the procedure outlined by him for the prevention of postoperative atelectasis was responsible for the decrease in the incidence of this complication in his cases and should make postoperative pulmonary atelectasis a negligible factor in surgical morbidity and mortality.

RONI ET ZOLLINGER, M.D.

Frimann-Dahl, J.: Postoperative Roentgen Examinations. 2. Postoperative Pulmonary Emboli (Postoperative Roentgenuntersuchungen. 2. Postoperative Lungenembolien). *Acta chirurg Scand*, 1935, 76 Supp. 36.

Roentgen studies were made in a series of fourteen cases of postoperative pulmonary emboli immediately after the first symptom and then at intervals of one or two days. The findings were positive in every case. Roentgen examination permits earlier diagnosis than clinical examination alone and yields valuable information regarding the course of the condition.

In mild cases with only slight hemoptysis the roentgen findings are transitory. They are probably due, not to true hemorrhagic infarcts, but to areas of local reactive inflammation and hyperemia. Larger emboli produce changes of longer duration which may persist for several weeks. These are manifested in the roentgenograms by dense, characteristic triangular or circular shadows which are usually localized in the base of the lung with the apex toward the hilus. They frequently leave pleural adhesions and are often complicated by the formation of exudates.

Systematic postoperative roentgen examinations revealed no instances of pulmonary atelectasis or latent pulmonary embolism.

LEO M. ZIMMERMAN, M.D.

ANTISEPTIC SURGERY; TREATMENT OF WOUNDS AND INFECTIONS

Harkins, H. N.: Experimental Burns. I. The Rate of Fluid Shift and Its Relation to the Onset of Shock in Severe Burns. *Arch Surg*, 1935, 31, 71.

A graphic method of recording the local accumulation of fluid in cases of burns is presented. This accumulation begins at the time of the burn and continues with decreasing rapidity until death. Accompanying the collection of fluid there is an increase in the concentration of the blood as shown by an increase in the percentage of hemoglobin and the hematocrit readings. After most of the fluid has accumulated a fall in blood pressure sets in and continues rapidly until death occurs in a state of secondary shock.

The findings of the author's experiments are in general agreement with those of workers who advanced the hypothesis that local loss of fluid from the blood vessels into the burned tissues is a factor in the production of shock and that the shock is secondary. The described method of recording the accumulation of fluid shows that the method of producing burns which was used in the experiments caused a quite rapid accumulation. In several experiments more than half of the ultimate amount of fluid collected in an hour. The total amount of fluid shift was not so great as that reported by some observers but this may have been due to its rapid formation. The concentration of the blood as shown by the increase in the percentage of hemoglobin and the hematocrit reading was roughly proportionate to the loss of fluid, but the blood pressure remained near normal until death approached and then fell rapidly.

STANLEY J. SEEGER, M.D.

Kunz II. The Treatment of Traumatic Wounds and Their Sequelae (Behandlung traumatischer Wunden und ihrer Folgezustände) *Klein med Wchnschr* 1935 1 372

Of great importance in the treatment of traumatic wounds were the researches of Friedrich of Leipzig. From experiments on animals carried out in 1898 Friedrich concluded that an infected wound can be rendered practically free from bacteria by thorough excision of the wound edges in the first six hours and therefore after the excision can be closed in the same way as an aseptic operative wound. This conclusion which at first was disputed is today generally accepted. Recently Magnus stated that primary excision of the wound within from six to eight hours followed by immediate suture has become a standard procedure in traumatic surgery. However, the basic rule of Friedrich cannot be followed indiscriminately since in some cases such for example as those in which wound excision cannot be done radically primary suture may be very dangerous.

Surgical treatment of the wound is always indicated in cases in which the clinical picture suggests an injury of deep organs or an opening of body cavities since only by such treatment is it possible to determine the presence of deep injuries definitely. To this group belong cases of injury to nerves and tendons penetrating wounds of the skull chest and abdomen and injuries in the region of joints.

In the treatment of injuries in the region of joints the phenol camphor alcohol solution of Chlumsky is of value. Treatment of the wound with antiseptics is of secondary importance to surgery. Tincture of iodine balsam of Peru hydrogen peroxide 1 regl's iodine solution Albrecht's halogen solution a 1 per cent solution of cyanol and similar antiseptics are sometimes found of considerable value. On the other hand the so-called deep antiseptics have proved unsatisfactory.

With regard to the treatment of bullet wounds the author says that conservative treatment is suf-

ficient as a rule in cases of simple through and through wounds but in cases of targetial gunshot wounds grenade and shrapnel wounds gunshot injuries with a ragged entrance or exit wound and gunshot fractures surgical treatment is indicated.

As a rule wound excision possibly followed by primary suture can be carried out under local anesthesia. However in cases of very extensive wounds and in the presence of shock general anesthesia may occasionally be necessary. Treatment of the wound should be delayed until the patient has recovered from the shock of the injury as much as possible. Of chief importance in the after treatment is immobilization of the injured part, especially in cases of joint injuries. With regard to the prophylactic injection of tetanus antitoxin there are no generally applicable rules. The danger of tetanus is greatest in cases of wounds contaminated with dirt wounds sustained in agricultural work and wounds produced by wood splinters. Bite wounds burns and lesions resulting from freezing are also to be regarded as dangerous.

With regard to the measures which should be taken for the prevention of gas gangrene there is considerable difference of opinion. On the basis of the findings of experimental research and his own clinical experience the author believes that gas gangrene prophylaxis is of some value. So far as already established wound infection is concerned it must be admitted that no noteworthy advances have been made in recent times. The old methods—incision and drainage—still prevail. All of the methods which promised to take the place of these simple surgical measures have failed to meet expectations. This applies to the passive congestion treatment as well as the use of the various antiseptic solutions and the Besredka antitoxin. Open treatment of the wound in conjunction with continuous irrigation is of some value as is also the old water bed of Hebra. Recently Loeber's treatment with cod liver oil salve with or without a plaster dressing has attracted attention. In progeric general infections the opening of all discoverable foci of infection supplemented by as early as possible repeated blood transfusions may be regarded as the most effective treatment. In the treatment of already developed tetanus energetic serum therapy saturation of the system with antitoxin is of great importance. Of the symptomatic drugs avertin has proved of value. In manifest gas gangrene very energetic surgical treatment with extensive and numerous incisions extending into normal tissue and possibly amputation should be given and supplemented by energetic serum therapy.

(MAXIMILIAN HILBERT) HARRY A. KILPATRICK, M.D.

Albert B. Accidents to the Hand and Arm (Lohnende Hand und des Armes) *Archiv für Chirurgie* 1935 14 3

Of 3,684 injuries occurring at the Lassa factory in the period from November 23, 1933 to July 15, 1934, 2,284 (61.9 per cent) involved the hand.

a 4+ content of sugar acetone, and diacetic acid. The hemoglobin content of the blood was 25 per cent. Except for the local lesion the findings of physical examination were not significant. On the right buttock there was a large foul smelling ulceration extending from the upper margin of the sacrum down to the upper third of the thigh outward to the great trochanter of the femur, upward to the anal region, forward along the whole length of the intergluteal fold to the perineum and upward into the right groin. At the lower margin of the lesion on the thigh and in the groin there was a strip of gangrenous skin firmly adherent to the margin of living skin and fairly sharply demarcated from the latter. The lower margin of the scrotum on the right side was also undermined and the right margin of the scrotum was gangrenous.

Emergency treatment to combat acidosis and hyperglycemia and to increase the body fluids and hemoglobin was administered. On the fourth day after the patient's admission complete excision of the lesion was done and the raw surface was dressed with zinc peroxide. Twenty-four hours later the foul odor had disappeared. Three days after the operation the pathological report of the biopsy established the presence of endameba histolytica in the tissues of the wound. The stools were then examined and found to contain actively motile amebas. A course of antiamebic treatment was given for two weeks. Three days after the institution of this treatment the stools became negative for amebas and thereafter remained negative. The wound granulated rapidly. On the twenty-first day half of the area was covered with Reverdin grafts. The remaining area was covered from four to eleven days later. The patient left the hospital fifty-three days after the primary operation. Ten days later the wound was practically healed.

The only organisms present were found in the slough beneath the gangrenous skin. When the overgrowth of bacillus proteus had been destroyed by heat only a green aerobic streptococcus survived. No anaerobic or micro-aerophilic bacteria could be found. Pathological study of excised tissue revealed essentially an invasion of the subcutaneous connective tissue and fat by amebas. A sharp line of demarcation was present between the tissues undergoing disintegration and practically normal tissue. Along the line of demarcation amebas were seen.

Clinically and bacteriologically the condition is to be differentiated from other forms of chronic infectious gangrene especially the so-called progressive postoperative synergistic gangrene described by F. L. Meleney. In the latter the dead skin and subcutaneous slough are adherent all around the margin of the lesion. There is no undermining of the edges of the skin. The outer margin of the gangrene is crenated. The skin beyond the gangrene area is raised from the surface and purplish and this zone is surrounded by a brilliant red zone from 1 to 3 cm wide which gradually fades off into normal skin.

The lesion is excruciatingly tender. In the case reported in this article there was relatively little gangrene of the skin and the line of demarcation was relatively smooth and sharply outlined, the margin of skin outside the gangrene was not raised, there was no red zone and the wound was not extremely tender. The margin of the skin elsewhere was extensively undermined and the granulating base of the ulcer was rough and shaggy with necrotic tissue adhering to it. Bacteriological study confirmed the differentiation since in the synergistic type of gangrene, the essential organism the micro-aerophilic non-hemolytic streptococcus, may be found in pure culture in material from just outside the margin of the gangrene and is associated with the staphylococcus aureus in the gangrene.

A bibliography is appended to the article.

ARTHUR S. W. TUCKER, M.D.

ANESTHESIA

Killian R. The New Divinyl Ether Vinethen (Der neue Divinyläther Vinethen) 50 Tag d. deutsch. Ges. f. Chir. Berlin 1935

Attempts to improve ether narcosis by chemical means have been made for a long time. In 1914 Leake and Chen carried out comparative studies on various saturated and unsaturated ethers. They found divinyl ether the most promising. The author's experiments with a methyl ethyl ether the only gas forming ether were unsuccessful. The narcotic action of this substance was too slight. Studies of ethyl chloride demonstrated that a liquid with a boiling point above zero but lower than the body temperature may induce narcosis like a true gaseous narcotic. Vinethen has a boiling point of 27 degrees C. which explains its close relation to gaseous narcotics. It is very difficult to prepare. The substance has a double bond in the molecule is very labile and shows a tendency to disintegrate. In the original solution 3.5 per cent alcohol to prevent freezing of the narcosis apparatus and a stabilizer are added. The ether has an odor between that of ethylene and that of ethyl ether. It is more volatile than ethyl ether has a specific gravity of 0.7 and fluoresces readily on the addition of the stabilizer. Pharmacological investigations carried out by American investigators showed it to have a 5 to 7 times stronger effect than ordinary ether but studies of its toxicity carried out by Brandis have not confirmed this finding. Both its narcotic effect and its toxicity approach the narcotic effect and toxicity of ethyl ether. Its anesthetic effect as compared with that of ether is given by Americans as 1:2.5. In fact it shows no noteworthy difference experimentally or clinically from ordinary ether. Occasionally there was an apparent inadequacy due to the extremely rapid diffusion of the substance. Experimental tests for liver injury made on normal animals animals intoxicated with chloroform and fasting animals were negative as were also numerous similar clinical studies.

PHYSICO-CHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Gilbert R. Junet R. and Kadrnika S. The Reaction of the Liver and Spleen to Roentgen Irradiation After the Intravenous Injection of Thorotrast (Comportement du foie et de la rate vis à vis des radiations de roentgen apres introduction intraveineuse de thorotrast) *As radiol.* 1935 16 44.

In experiments on rabbits the authors injected colloidal thorium intravenously and then irradiated the hepatic and splenic regions with the roentgen rays. Of the control rabbits some were subjected only to the irradiation and other only to the injections.

The cells with thorium granules appeared much more quickly in the splenic follicles in the animals irradiated with a dose of 1800 r (simple fractionation) than in the non irradiated controls. The passage of the thorium particles out of the reticulo-endothelium into the lymph of the splenic follicles was also hastened by the irradiation. In the liver the acceleration of filtration of the thorium particles was less striking.

In some of the rabbits irradiation of the liver with a dose of 2800 r (protracted fractionation) after the injection of colloidal thorium produced cellular changes of a much higher grade (vacuolization of the liver cells) than in the non injected controls (transparency of the cells). The presence of thorium in the stroma (Kupffer cells) also appeared to sensitize the liver cells to roentgen irradiation (additional secondary irradiation from the metal particles). No similar effect could be discovered in the spleen following the same dose of thorium.

Timpano M. The Blood Changes Occurring in the Course of Roentgen Therapy With Large Fractionated and Protracted Doses (Modificazioni ematologiche nel corso di roentgentherapie secondo la tecnica delle alte dosi frazionate e protratte) *Radiol med.* 1935 22 579.

From a study of the blood in twenty five cases in which Coutard's technique of roentgen irradiation was used Timpano concludes that this method causes more marked changes in the blood than other methods. However the changes which occur chiefly in the leucocytes are only transitory and restitution is usually well under way before the course of treatment is finished. By the end of two months after termination of the treatment the leucocytes have reached their normal permanent values. As a rule however there is a slight leucopenia. In all of the cases reviewed the clinical tolerance of the treatment was excellent. About half way through the course of treatment improvement in the condition was generally apparent. This

seems to indicate that subsequent injury from the changes in the number and character of the leucocytes (particularly lymphopenia) is compensated for by the changes produced by the treatment at the site of the pathological process.

Timpano believes that the changes observed are a good index of the result to be expected from the treatment, since in cases with a favorable prognosis restitution of the blood elements especially the lymphocytes and the leucocytes in general is prompt and complete. EUGENE T. LEMAY M.D.

Teneff S. and Stoppini F. The Effect of Irradiation on the Lymph Glands and the Lymphatic Circulation (L'influenza delle irradiazioni sulle linfoglandole e sulla circolazione linfatica) *Radiol med.* 1935 22 768.

The authors report experiments on dogs and guinea pigs in which they studied the effects of roentgen irradiation on the lymph glands and lymphatic circulation paying special attention to the effect on the reticulo endothelial cells, the changes in the lymphatic tissue, and the circulation of the lymph through the irradiated glands. They made histological examinations of the glands some of which they injected with India ink, and also made roentgenograms using colloidal thorium by a special method of their own. The protocols of the experiments are supplemented with photomicrographs and roentgenograms. Small moderate and large doses of irradiation were used.

It was found that small doses brought about an increase in the pigment storing function of the reticulo-endothelial cells of the lymphatic glands. Moderate doses decreased this function considerably and large doses not only abolished it completely but entirely destroyed the cells. Small doses did not have any effect on the lymphatic cells and follicles but as the doses were increased the cells and follicles showed distinct signs of injury until finally they were destroyed. The glands remained normally permeable to the lymphatic circulation with small moderate and large doses even when there was considerable destruction of tissue.

ARDEY GOSSE MORGAN M.D.

Overgaard K. Experimental Studies on the Combined Heat Roentgen Therapy of Malignant Tumors (Experimentelles ueber kombinierte Wärme-Roentgentherapie bösartiger Tumoren) *Acta radiol.* 1935 16 451.

Experiments carried out by the author on animals showed that combined heat and roentgen therapy had an especially favorable effect on implanted tumors which was decidedly more favorable than the effect obtained by heat treatment or roentgen

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Fitchet S M The Etiology of Congenital and Hereditary Deformities *New England J Med* 1935 213 164

The author reviews the work of the principal investigators in the field of genetics from the time of Mendel (18 1854) to date citing facts which suggest a physiological basis for congenital deformities.

Mendel demonstrated that inherited character traits are determined by genetic units the chromosomes. Morgan advanced the concept of the gene as the genetic unit. Painter demonstrated cross bandings on the chromosome which were shown by Bridges to be edges of solid disks extending clear through the chromosome. These disks are subdivided into small particles and even single molecules which may be genes or gene bearers. In bits of chromosome material with a diameter as small as sixteen millionths of an inch there is room for several genes.

By dislocating a few of these genes mutations in the organism can be produced. This suggests that the position of the gene or gene group and its interaction with its neighbor may be of great importance. While genes may be entirely dislocated without causing death the gene deficient individual will show abnormalities. This seems to explain the eventual production of club-foot in mice after exposure to the X rays which was accomplished by Bagby.

If the basis of congenital deformities is a damaged or dislocated gene of a complex chromo some the damaging or dislocating agent may be (1) in section (2) a metabolic deficiency (3) a mechanical injury (4) a thermal or chemical factor or (5) some unknown agent. CLARENCE C REED MD

Berendes J Granuloma Gangraenescens (Granuloma gangraenescens) *Muenchen med Wchschr* 1934 2 2003

The author reports the case of a man thirty-one years old who complained of slight pain in the region of the left eye and left frontal area and a marked discharge from the left side of the nose. After two months edema of the left eyelid appeared and fever developed. Operation revealed that the left ethmoid had been transformed into edematous granulation tissue. Histological examination showed chronic granulating and necrotizing inflammation also in the bone marrow. Improvement in the condition soon occurred but was followed by a sudden recrudescence. Reoperation disclosed that the process had progressed in the direction of the sphenoid bone. It gradually invaded also the right side. The pa-

tient died of meningitis. Autopsy revealed an extensive process in both frontal lobes of the brain.

Twenty seven similar cases have been reported in the literature. The condition begins with the formation of proliferating granulations in the nasal mucous membrane which invade the deeper tissues in the manner of a malignant tumor and soon becomes gangrenous. The resulting cavities cause a marked change in the contour of the face. The disease is fatal in from three months to two years. Its cause is unknown. It must be differentiated from syphilis malignant neoplasms tuberculous glanders and lymphogranulomatosis. To date treatment has failed to effect a cure. It can be only symptomatic. (HACKENBERGER) WILLIAM C. BARK, MD

Montgomery H The Histogenesis of Basal Cell Epithelioma *Radiol* 25 1935 25 8

Montgomery states that benign forms of basal cell epithelioma especially epithelioma adenoides cysticum and cylindroma may arise from multiple points of origin from the basal cells of the epidermis and the basal cells forming the outer sheath of the hair follicle sebaceous gland, and sweat duct. At times they originate from the basal cells of the outer root sheath of the hair follicle or the matrix cells near the bulb without evidence of participation of the basal cells of the epidermis.

Verrucous senilis may be designated as benign pigmented basal cell epitheliomas (benign melanocarcinomas) but the author believes they are more properly called delayed epithelial nevus and that nevus pigmentosus should be classified as a nevus rather than as a benign epithelial neoplasm.

Transitions between benign and malignant basal cell epithelioma and lesions of multiple types in the same individual justify the use of the term epitheliomas to include both types of lesions. This is preferable to limiting the term epithelioma to benign neoplasms and the term carcinoma to malignant neoplasms of the skin.

The basal cells that line the outer sheath of the hair follicles sweat ducts and sebaceous glands are similar to the basal cells of the epidermis and therefore may participate independently or simultaneously in any neoplastic process.

In rare instances malignant basal cell epitheliomas (Basalzellenkrebs Krompecher) which are most common in certain locations on the face originate from the hair matrix but more often arise from basal cells of the outer root sheath of the hair follicle. Occasionally they may represent embryonic rests that are independent of the epidermis and dermal appendages but the author believes that in the great majority of cases they show single or multiple points of origin from the basal cells of

the epidermis. In their growth those of the latter type may simulate imperfectly formed or embryonic hair follicles or sebaceous glands, but serial sections show no evidence of a relationship of these tumors to the mature forms of sebaceous glands and hair follicles seen at biopsy on the same specimen. Silver stains are of no value in distinguishing a basal-cell epithelioma from an epithelioma originating in a hair matrix, and the presence of melanin does not indicate the origin of the basal-cell growth.

Basal-squamous cell epithelioma represents a metamorphosis from basal cell to squamous cell epithelioma and constitutes further evidence of the origin of basal cell epithelioma from the basal cells of the epidermis. It rules out a fundamental and separate histogenesis of basal cell and squamous-cell epitheliomas.

The early development of basal cell epithelioma from multicentric and independent points of origin from the basal cells of the epidermis is best seen in cases of superficial epitheliomatosis. The presence of mature hair follicles, sweat glands, and sebaceous glands without evidence of transitional forms speaks against a hair-follicle origin of these tumors.

Basal cell epitheliomas constitute 10 per cent or fewer of the epitheliomas resulting from scolic keratoses and keratoses caused by arsenic, tar, and radiotherapy, and fewer than 2 per cent of all epitheliomas due to keratoses from these causes. The great majority of epitheliomas resulting from keratoses are of the squamous cell type.

Before deciding that a given basal cell epithelioma has its origin from the epidermis or dermal appendages it is necessary to demonstrate this origin by serial section and various reconstruction methods. In regard to arsenic as an etiological factor, the author states that the presence of arsenical keratoses or pigmentation does not prove that a basal cell epithelioma was caused by arsenic. If arsenic was responsible, more of it will be found in the epithelioma than in the normal adjacent epidermis.

Earle, W. R.: A Study of the Walker Rat Mammary Carcinoma 256, in *Vivo and in Vitro* 1st J Cancer, 1935, 21 560

Data are presented concerning the early history and structure of the Walker rat tumor No. 256. They show that the tumor arose as a mammary carcinoma of typical adenomatous structure and that while this adenomatous structure recurred for a time it apparently disappeared entirely on continued subculture.

The cellular structure of the tumor is discussed. In a study of sections of fixed tissues from the tumor, the stock tumor strain as carried in the laboratory appeared free from signs of sarcomatous elements although there was some slight variation in its stroma elements from generation to generation. This was evidenced also by the growth characteristics of the tumor in tissue culture.

Subcutaneous inoculations of the tumor were encapsulated, but, particularly in the case of larger

tumors, the capsule was often incomplete. Intramuscular injections of the tumor appeared to grow better and presented little or no signs of capsule formation. They showed rapid general invasion of surrounding tissues. Some metastases to retroperitoneal nodes and the lungs were observed.

The behavior of the tumor tissue in short-term tissue cultures was studied in a number of different culture media. The latter included saline solution, rat serum, chick embryo juice, egg white, and horse serum. In saline solution and in egg white the growth was very poor, and in chick-embryo juice and rat serum it was not satisfactory. The best results were obtained from cultures in horse serum. Cultures in egg white, chick embryo juice, and rat serum showed much liquefaction of the clot, while those in horse serum showed little or none. The cell types and changes observed in the cultures are described.

Longer-term cultures were studied in horse serum. For these it was found necessary to supplement the horse serum with chick-embryo juice. In this combined culture medium the cells of the tumor were successfully cultivated for three hundred and seventy-two days. After one hundred and seventy-five days the cultures were apparently pure cultures of tumor epithelium. The growth characteristics of the cells are described. These cultures showed practically no liquefaction of the clot.

As a control on these cells, cultures of rat fibroblasts from the subcutaneous connective tissue of an adult rat were grown in the same medium. These cultures showed the most satisfactory growth obtained from fibroblasts in any culture medium as regards diameter and density of growth, freedom from liquefaction of the clot, and the infrequency with which it was necessary to transfer the culture to fresh clot.

Tissue cultures of the tumor were periodically re-inoculated into rats. Cultures grown *in vivo* up to one hundred and thirty-three days gave rise to tumors with a structure typical of the parent tumor. However, after one hundred and seventy-five days, when the cultures inoculated were almost or entirely pure cultures of epithelial cells, a number of the tumors produced showed a strikingly different structure resembling that of fibrosarcoma. This change in structure was due apparently to elongation of the epithelial cells of the tumor. When tumors from this substrain were carried through 6 generations of rat inoculations the sarcomatoid structure was still evident in the sixth generation.

SAMUEL KAHN, M.D.

Caspari, W.: The Defense Reactions of the Body to the Development of Cancer and Their Importance in the Healing Process (Ueber die Abwehrmassnahmen des Organismus gegen die Entstehung der Krebskrankheit und ihre Bedeutung fuer den Heilungsorgang) *Wiss. Woche Frankfurt a. M.*, 1935, 2 22

Although Sachs and Hirsfeld discovered specific antibodies against certain cancer cells and Lumsden

demonstrated the development of a specific cancer antibody in passive, homologous immunization the defense of the organism is essentially of a non specific character. This fact permits conclusions also regarding the nature of the carcinomatous process itself.

The defense reactions of the body are dependent upon the reticulo endothelial system. This system was designated by Volterra as the "reticulo-histocytic system" and by others has been characterized as active mesenchyme. The activity of the reticulo-endothelial system is stimulated by the product of broken down or breaking down cells. This product is called by Freund the cell degeneration hormone and by Caspari the necro-hormone. Its effect depends upon its quantity in accordance with the Arndt Schulz law: small doses stimulate, larger doses paralyze, still larger doses kill. Maygawa demonstrated that the manner of action of the necro-hormone in cancer is not specific but follows a general biological law. The regulation of the function of defense by the substance which he designates as autohormone, he calls auto regulation. For the processes in cancer it is necessary to supplement the Arndt Schulz law by the statement that continued stimulation by small doses eventually lead, to paralysis of the effectuating mechanism and paralyzing doses may be followed by over compensative stimulation. For example the continued invasion of the blood by necro-hormone even in small amounts may stimulate the defense mechanism to the point where its power to react becomes paralyzed. Under such circumstances treatment with small stimulating doses will fail and there remains no other possibility than treatment of the reticulo endothelial system with huge paralyzing doses with the object of producing an over compensating stimulation. In this process the so called specific components of the non specific process also play a role. Caspari believes that the necro-hormones may differ in their effects according to the tissues from which they are derived. He states that one of the first to carry out important research on this problem was Ioannovic.

Caspari has demonstrated experimentally that resistance to the growth of a malignant tumor is increased best by the necro-hormone of the tumor itself or that of the tissues of the reticulo-endothelial system. At operation on a cancer complete radical removal can be counted upon only in the earliest stages. Even in only moderately advanced cases cancer cells nearly always remain somewhere in the body as Heiderham, Schmidt and others have demonstrated and these continue to multiply as long as the disposition to the development of cancer persists. This disposition also seems to have its roots in the reticulo-endothelial system. It is therefore very important to stimulate the reticulo-endothelial system after operation. This may be done by postoperative irradiation. Without doubt the stimulative effect of such treatment is due not only to destruction of the tumor cells left behind but also

to destruction of cells of the lymphoid system with the resulting liberation of specific necro-hormone. Accordingly similar effects may be obtained from irradiation or ligation of the spleen. It is better to liberate small quantities of necro-hormone by repeated small doses of irradiation over a long period of time than a larger amount which is effective for only a short period by a single stronger irradiation. In experiments on animals Calo found that in mice general irradiation with 30 r had an immunizing effect. The resistance of the organism in the post operative period may be increased also by diet. Experiments along this line have been carried out by Halberstaedter and Freund. De Gaetani has shown that merely a change of diet has an inhibiting effect on the transplanted carcinoma of the mouse. As regards the dose of roentgen irradiation animal experimentation has shown that under some conditions large doses destroy only a part of the tumor and stimulate other parts to increased growth. This was noted also by Prime and Wood in studies of tissue cultures. Calo found that in certain concentrations necro-hormone stimulates normal embryonic cells to growth while it kills the much more sensitive sarcoma cells. An interesting example of the action of necro-hormone was observed in the studies of Blumenthal. By the injection of weakly radioactive salts into inoperable tumors Blumenthal was frequently able to destroy the tumor completely but the patient died of the excess formation of necro-hormone. The action of the salts of heavy metals studied by Neuberg, Loche and the author a decade later by Blair Bell may have been due to the liberation of necro-hormone as the result of severe peritumoral poisoning. The action of the diuretics which have been recommended frequently in recent years is ascribed by the author to a hypercompensatory stimulation caused by flinging up and choking off of a large number of the reticulum cells. Of similar significance were the findings of Theilhaber's experiments in which splenic and thymic tissue of animals transplanted to patients suffering from cancer underwent necrotic degeneration and the results of the therapeutic studies of Fichera.

(Schiller) JOHN W. BRENNAN, M.D.

Harvey W. F. and Hamilton T. D. Carcinomas of the Esophagus. Edinburgh, 1915, 42, 33.

The authors report a study of the structure of double malignant tumors—two adjacent and intermingled but distinct neoplasms of ectodermic and mesodermic origin respectively, developing simultaneously or at different times. They restrict the sarcomatous component of the double tumor to the essentially spindle cell type and thus exclude reference to the association of a round cell type with malignant epithelial elements.

Animal tumors perhaps present the best examples of carcinosarcomas. These are found not only in the transplanted mammary tumors of the mouse but also apparently in skin tumors of the same animal produced by tar painting.

The tumors which are described as misleading may be carcinomatous with a sarcoma-like or an endothelioma-like appearance (carcinoma sarcomatoides) or sarcomatous with a carcinoma-like appearance (sarcoma carcinomatoides). Such neoplasms are suggestive of double tumors.

After discussing carcinosarcoma, reporting six cases of their own, citing a number of similar conditions, and reviewing in some detail the opinions expressed by others, the authors draw the following conclusions.

1 There is a double tumor which is a mixture of carcinoma and sarcoma and may be called a "carcinosarcoma."

2 The sarcomatous element develops after the carcinoma.

3 The sarcomatous development is probably an exaggeration of the stroma reaction to invasion by the carcinoma.

4 There are tumors both of an epidermic and a glandular carcinoma type which may show, in part, aggregations of spindle-shaped epithelial cells resembling sarcoma and may be called "spurious carcinosarcoma" or "carcinoma sarcomatoides."

5 Not uncommon in primary and secondary carcinoma is a fibroblastic reaction which may be very active without being malignant. This may pass over to malignancy and form a carcinosarcoma. It is this transformation of stroma which may occur in the case of some carcinomas and is to be distinguished from granulation tissue and spindle-cell carcinoma. The possibility of a predisposition to overgrowth of stroma is to be considered.

6 The accidental occurrence and ultimate conjunction of two entirely separate tumors, the so-called "collision tumor," has no relation to the neoplasms under discussion. JOSEPH K. NARAT, M.D.

Hamilton, C. L., and Rothstein, E.: Air Embolism. *J. Am. M. Ass.*, 1935, 104: 2226.

Air embolism is a rather infrequent complication of various surgical procedures in which air is permitted to enter the venous system. Cases of air embolism may be divided into 2 large groups—one in which the air gains entry to the peripheral venous system and the other in which it enters the pulmonary venous circuit.

Air embolism resulting from the entrance of air into the peripheral circuit has occurred in practically every field of surgery.

The intravenous injection of small amounts of air during transfusions and other intravenous infusions has been repeatedly observed to be harmless. Air embolism occurs when large amounts of air are allowed to enter a vein. The requirements for such an occurrence are met when (1) a vessel is only partly severed and is therefore prevented from collapsing or, having been completely severed, is prevented from collapsing and retracting by the firmness of the surrounding tissues, and (2) the venous pressure is negative or the air pressure is positive. Probably the most frequent site of origin

of air embolism is the region of the great veins of the neck following thyroid and other operations. When a vein is cut the first sign of the entrance of air is usually a hissing sound in the wound. The sequelæ, which depend upon the amount of air aspirated, include dyspnea, cyanosis, coma, cardiac arrhythmia, apnea, and death. A murmur over the heart due to churning about of the air has been described.

Air embolism has been known to occur following wounds of the neck, irrigation of the maxillary sinuses; manipulation of the intracranial venous sinuses; fractures of the long bones, especially the tibia; manipulation of the pregnant and puerperal uterus; and the injection of air into the urethra, bladder, or peritoneal cavity.

In most of the reported cases of air embolism resulting from the entrance of air into the pulmonary venous circuit the condition followed artificial pneumothorax. Other causes are injury to the chest wall and lung, pleural lavage in empyema, and the escape of air from solution in the blood in caisson disease.

Air embolism occurs in about 1 of every 500 to 1,000 pneumothorax treatments. The perforated vessel through which the air enters may be in the lung or a vascular adhesion. Rivière says that such vessels may enlarge to almost angiomatous dimensions.

In cases in which air embolism occurs in association with artificial pneumothorax the lung usually appears more or less fibrotic and the pleura is, and feels, thickened when perforated. To this group belong cases in which pneumothorax was once induced and then abandoned and cases in which the lung has been gradually re-expanding because of an obliterative pleurisy in spite of continued pneumothorax treatments.

As a warning sign the patient may cough up a small amount of blood or blood may well up through the needle or may be found on the tip of a stylet introduced to determine the cause of the absence of proper fluctuations. The initial symptoms vary from slight to severe. Often the patient complains first of local pain, severe coughing, or feeling "queer." The first sign may be pallor or dizziness. This may be followed by coma and sudden death, a neurological lesion, or mental confusion. Objectively the first sign is often pallor which is commonly followed by intense cyanosis. In severe cases bradycardia, loss of consciousness, convulsive twitching, cardiac irregularities, apnea or respiratory difficulty, urinary and fecal incontinence, and vomiting may occur. Focal neurological signs may appear at once or after a number of minutes. Any part of the brain may be involved. The most common of the easily recognized syndromes is hemiplegia.

The author reports illustrative cases of both types of air embolism. He states that the symptoms of air embolism in the peripheral vascular system are due to the presence of air in the right side of the heart. In air embolism in the pulmonary system the

symptoms are in the cerebral vessels. While as much as 150 c.cm. of air has been injected into the peripheral system without causing death the presence of 1 c.cm. in the pulmonary system may be fatal.

In the induction of pneumothorax the following precautions should be taken to prevent air embolism:

- 1 Unless on fluoroscopic examination or in a recent roentgenogram the lung is seen to be well away from the chest wall, the injection of air should be delayed until free characteristic intrapleural oscillations can be obtained.

- 2 Great care should be taken in the initial injection and in cases in which difficulty has been experienced previously.

- 3 A blunt needle should be used.

- 4 For at least the first 50 c.cm. readings should be taken every 5 to 10 c.cm. to preclude the possibility of penetration of the lung by the tip of the needle.

- 5 When the needle has once been introduced into the pleural space it should be held firmly to prevent its dislodgment. On the slightest untoward movement or sign on the part of the patient the needle should be withdrawn.

- 6 If a free space is not found at once the surgeon should be especially on guard for the development of air embolism. Epinephrine should be near at hand.

- 7 The first treatments should be given or at least supervised by one who has had considerable experience with artificial pneumothorax therapy.

JOHN J. MALONEY, M.D.

DUCTLESS GLANDS

Knaggs R. L. *Acromegaly* *Brit J Surg* 1935 23 69

This forty page review includes Cushing's classification of variations of pituitary secretion, a review of the history of acromegaly, a description of the clinical features and bone changes of the condition, a discussion of the pathology of the bone changes and of the etiology and pathogenesis of the condition in the light of present knowledge, and a review of the

treatment under the headings of irradiation, surgical interference, and glandular therapy.

WALTER H. NADLER, M.D.

Leriche R., Jung A. and Sureyya C. *The Skin in Experimental Hyperparathyroidism. A Study of Experimental Scleroderma* (La peau dans l'hyperparathyroïdisme expérimental. Etude de la sclérodémie expérimentale). *Presse méd.* Paris, 1935 43 777.

Since 1929 several investigators have studied the relation of the parathyroids to scleroderma. The authors first undertook experiments on pigs because the skin of these animals so closely resembles that of man in its structure. Injections of parathormone in young pigs produced only a slight indurated plaque with some loss of hair at the site of the injection. Histological examination of this plaque showed edematous infiltration. As the quantity of parathormone employed was not sufficient in relation to the size of the animal to produce definite effects and as it was impossible to use larger amounts, smaller laboratory animals (rats) were employed for further experiments.

Six series of young rats were used. Some of the animals in each series were given injections of parathormone and others kept as controls. In the cases of all the animals given parathormone the skin showed three successive changes: first thickening (infiltration), then induration and finally loss of hair. Histologically, the first change was infiltration of the derma, the second calcium infiltration and destruction of the derma, and the third proliferation of the connective tissue of the derma with thinning of the epidermis. These lesions closely resemble those of scleroderma in man. In the early stages the water content of the skin was definitely in excess of that of the normal controls. The calcium content of the skin was also two or three times that of the normal skin, although in this early phase no calcium infiltration could be demonstrated histologically. Later the chemical analysis and the histological demonstration of calcium agreed.

These experimental findings support the theory that scleroderma is due to hyperfunction of the parathyroids.

ALEX. M. METZGER.

BIBLIOGRAPHY of CURRENT LITERATURE

NOTE.—THE BOLD FACE FIGURES IN BLACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND.

SURGERY OF THE HEAD AND NECK

Head

The treatment of hyperplasia of the face by alcoholization of the facial nerve and facial muscles. A J ZIEGLER-KITZ. Zentralbl. Chir., 1935, p. 20.

The treatment of chronic infection of the parotid gland. G. M. DORFNER. Am. J. Roentgenol., 1935, 31, 824.

Injuries of the jaw and face in farm cars. M. D. DUBON. Sov. Khir., 1935, 3, 98.

The early picture of actinomycosis of the jaw. G. A. PATERN. 50 Tag d. deutsch. Ges. f. Chir., Berlin, 1935.

Recurrent cystic adamantinoma of the jaw. C. A. SCHAFF. Bol. y trab. Soc. de ciruj. de Buenos Aires, 1935, 10, 250.

Isolated osteoma of the upper jaw. C. BREGARA and R. BREGARA. Rev. Asoc. med. argent., 1935, 49, 492.

Resection of the upper jaw for cylindromatous tumor probably of salivary origin. A. J. COSTA. Bol. y trab. Soc. de ciruj. de Buenos Aires, 1935, 10, 220.

Datherymy resection of the upper jaw for malignant tumor. R. POUSTK and N. von SO. PIRON. Rev. Asoc. med. argent., 1935, 49, 350.

Fracture of the lower jaw and its treatment. W. LANGEN. KAUPTER, 1935. Kurl. Dissertation.

A new method for the treatment of fracture of the lower jaw. H. MIMMI. Irish J. M. Sc., 1935, No. 115, p. 318.

Recurrent adamantinomatous cyst of the lower jaw. R. L. MASCIOTTA. Bol. y trab. Soc. de ciruj. de Buenos Aires, 1935, 10, 220.

Tuberculosis of the submaxillary gland. H. MONDOR and P. GAUTHIER VILLAS. Presse med. Par., 1935, 43, 507.

Eye

The variable relationship between the position of the eyes and movement of the eyes on body position. L. KPEREKYAN. 50 Tag d. deutsch. Ges. f. Chir., Berlin, 1935.

The measurement of the speed of adjustment of the eye to near and far vision. C. J. ROBERTSON. Arch. Ophth., 1935, 14, 82.

The pupillary light reflex after lesions of the posterior commissure in the cat. H. W. MAGOUN, S. W. RANSON and L. L. MAYER. Am. J. Ophth., 1935, 18, 624.

Three simple aids in refraction work. I. W. G. SMITH. Brit. J. Ophth., 1935, 10, 407.

Ocular pathology of the newborn. W. D. ROWLAND. Am. J. Ophth., 1935, 18, 647.

The evaluation of malingering tests after ocular injuries. H. V. WÜDEMANN. Northwest Med., 1935, 34, 235.

Ocular disorders associated with the wisdom tooth. C. B. HENRY. Brit. J. Ophth., 1935, 19, 378.

Endophthalmitis phaco-anaphylactica, a clinical study. I. L. GOODMAN. Arch. Ophth., 1935, 14, 90.

Exophthalmos, ocular complications, causes from primary lesions in the orbit, surgical treatment. A. B. REISS. Arch. Ophth., 1935, 14, 41.

Exophthalmos from surgical diseases, especially as to involvement of the protective retrobulbar space. W. P. FACILTON. Arch. Ophth., 1935, 14, 1. [426]

Palatine exophthalmos. S. L. DORFNER. Sov. Khir., 1935, 2, 113.

The early diagnosis of glaucoma. C. N. SPART. Penn.sylvania M. J., 1935, 38, 701.

Some aspects of glaucoma. R. A. GERVAS. Irish J. M. Sc., 1935, No. 115, p. 241. [426]

Malignant anthrax edema. A. S. ROSS and J. S. SMITH. Am. J. Ophth., 1935, 18, 941.

Common disorders of the skin of the eyelids. L. HOLLANDER and H. I. BULL. Am. J. Ophth., 1935, 18, 616.

Sympathetic ophthalmia. C. H. HAPALSON. J. Oklahoma State M. Ass., 1935, 25, 202.

Morax-Axenfeld conjunctivitis. R. D. SMITH. J. Indiana State M. Ass., 1935, 28, 317.

Trichiasis. J. M. WATSH. J. Lancet, 1935, 55, 471.

The trichoma problem. A. F. MACCARTAN. Brit. J. Ophth., 1935, 10, 485.

Trachoma infection and treatment. M. M. CHILTON. South. M. J., 1935, 28, 642.

Local quinine therapy in trachoma. L. SELINGER. Am. J. Ophth., 1935, 18, 631.

The prophylaxis of blindness, the international fight against trachoma. M. L. ALVARO. Rev. oto-neuro-oftalmol. y de ciruj. neurol. Sud-Americana, 1935, 10, 148.

Cancer of the eyelid, discussion of the diagnosis, prognosis, and treatment. R. C. NICOLINI. Semina méd., 1935, 42, 1630.

Neurinoma of the orbit. O. SIRCHAVSKA. Arch. Ophth., 1935, 14, 71.

The squint training clinic of the L. C. C. M. THOMPSON. Lancet, 1935, 220, 183.

Ophthalmoplegic hemianopia. M. SCHAFCHER. Reform med., 1935, 51, 670.

Concretion of the lachrymal canaliculus. W. S. REISS. Pennsylvania M. J., 1935, 38, 772.

Concretions in the lachrymal canaliculus caused by actinomycetes. A. C. REYS. Brit. J. Ophth., 1935, 19, 385.

An improved technique for dissection of the lachrymal sac. J. H. HILKA. Arch. Ophth., 1935, 14, 101.

Corneal corpuscles in the reaction of hypersensitiveness. H. D. LAMM. Am. J. Ophth., 1935, 18, 644.

Bilateral temporal pterygia. P. H. REID and L. L. MAYER. Am. J. Ophth., 1935, 18, 605.

Anisokonia. W. L. HUGHES. Am. J. Ophth., 1935, 18, 607.

The biochemistry of the lens. IV. The origin of pigment in the lens. J. G. BULLOWS. Arch. Ophth., 1935, 14, 99.

Leid amblyopia with cataract from the same source. J. W. SMITH. J. Missouri State M. Ass., 1935, 32, 275.

- Rapidly developing cataract after dimetrophenol W W BOARDMAN J Am M Ass 1935 105 108
- Cataracts following the use of dimetrophenol preliminary report of three cases W D HORTON R B JONES and W W BOARDMAN J Am M Ass, 1935, 105 108
- Intracapsular extraction of senile cataract. C P CLARK J Indiana State M Ass 1935 28 319
- The postoperative treatment of cataract A B BRUNER, Ohio State M J 1935 31 501
- The curved cataract knife and its advantages R T PATTON Arch. Ophth 1935 14 108
- The fundus of the eye J LITO PAVIA Rev oto-neuro oftalmol y de cirug neurol Sud Americana 1935 10 143
- The fundus of the eye the green fields J LITO PAVIA Rev oto-neuro oftalmol y de cirug neurol Sud Americana 1935 10 117
- Uveoparotid fever D G COHAN Am J Ophth 1935 18 637
- Observations on the human retina D J WOOD Brit J Ophth, 1935, 19 369
- The disposition of fibers of retinal origin in the lateral geniculate body and the course and termination of fibers of the optic system in the brain of the cat R W HARRIS Arch Ophth 1935 14 61
- The water binding of the retina J A VAN HEUVEN and F P FISCHER Brit J Ophth 1935 19 300
- The surgical treatment of retinal detachment G C WILSON U S Nav M Bull 1935 33 379
- Epilepsy and cystic degeneration of the retina M VICTORIA and J LITO PAVIA Rev oto-neuro oftalmol y de cirug neurol Sud Americana 1935 10 113
- Disciform degeneration of the macula A R KAHNER and C O BRENN Arch Ophth 1935 13 937 [477]
- Intra-orbital myxinioma (endothelioma) of the optic nerve sheath H E THOMPSON J Iowa State M Soc. 1935 24 347

Far

- Cholesteatoma J J FRIEDMAN Am J Roentgenol 1935 34 37
- An echo on the light reflex and the permanent perforation of the tympanic membrane N ASHERSON J Laryngol & Otol 1935 50 512
- Purulent otitis media in the newborn DOLAN and GRAND New York State J M 1935 35 609
- A case of Gradenigo's syndrome cured without surgical intervention Y FRANCHINI and E RICCIARELLI Rev Assoc med argent 1935 49 312
- Headache as a feature of the Meniere syndrome L H CONEY Guy's Hosp Rep Lond 1935 85 215
- Anomalous capillary plexus in the scala tympani D WOLFE Arch Otolaryngol 1935 22 44
- Non suppurative encephalitis of otitic origin J B HORGAN Brit M J 1935, 1 161
- Consideration on operation of the petrous pyramid M C MYERSON H W REVER and J G LILBERT Arch Otolaryngol 1935 4 62
- Irreversible abscess following acute mastoiditis L O GOLDBER Am J Surg 1935 29 133
- Malectomy complicated by acute hemorrhagic nephritis R F REWART Pennsylvania M J 1935 38 80

Nose and Sinuses

- Neoplasms and cysts of the dorsum of the nose E C HARTMAN West Virginia M J 1935 31 322
- A method of measuring the airway of the nose Sir L HILL Lancet 1935 219 70

- Tip of the nose completely severed and sutured three hours after the accident J N KOV J Laryngol & Otol 1935 50 518
- A case of abscess of the nasal septum. D MOREIRA Folha med 1935 16 246
- Reconstruction of the columella nasi H L UNGER Arch Am J Surg 1935 29 29
- The treatment of the hypertrophied inferior turbinate by the use of sclerosing solutions L P MORISON Arch Otolaryngol 1935 22 96
- The influence of anatomical structure in diseases of the nose and ear E U WALLERSTEIN Arch Otolaryngol 1935 22 16
- Sparnod rhinitis due to tobacco W S HEIMANN Bruxelles med 1935 15 938
- The local treatment of vasomotor rhinitis T S BLISS J Med Ass Georgia 1935 24 163
- Seventy cases of osseous D MOREIRA Folha med. 1935 16 260
- An investigation of the part played by allergy or sensitization as a factor in predisposing the mucous membrane of the nasal passages and the paranasal sinuses to infection, and its bearing upon the treatment of disease of these cavities J A M CAMEROV J Laryngol & Otol 1935 50 493 [477]
- Malignant tumors of the nasopharynx L H HIRNE Arch Otolaryngol 1935 22 51 [477]
- Tumors of the nasal and paranasal cavities C F GRACHTER Am J Cancer 1935 24 637 [477]
- Upright radiography with especial reference to the investigation of the accessory nasal sinuses. H E YEE Brit J Radiol 1935 8 439
- Sinusitis in children H J BURMAN Laryngoscope 1935 45 440 [477]
- Chronic paranasal sinusitis M V HORSER California & Wt Med 1935 41 24
- Discussion on the treatment of chronic infection of the nasal accessory sinuses The management of chronic sinus disease—conservative or radical? F STURTE A L YATES T B LAYTON W HOWARTH H G B RUSSELL and others Proc Roy Soc Med. Lond 1935 28 951 [428]
- Mucocoele of the frontal sinus with special reference to the roentgen aspects and a report of four cases A HARTMAN and T WACHOWSKI Am J Roentgenol 1935 34 30
- Intranasal operation for chronic maxillary sinusitis and results in 200 cases in which the principles of Kuester were employed H L WILLIAMS J Am M Ass 1935 105 96

Mouth

- Adenocarcinoma of the oral cavity W L WATSON Am J Roentgenol 1935 34 53
- Carcinoma of the mouth with especial reference to treatment H L ALBRECHT Radiology 1935 25 14
- Cancer of the face and oral cavity, surgery versus radiation A O SVETLOV South M J 1935 13 615
- Harelip A theory regarding the etiology of the malformation V VEARG Ann d anat path 1935 12 389 [429]
- The surgical treatment of carcinoma of the lip S NARBUKOVSKIY Nov Akh Arkh 1935 35 5
- Facial spasm of dental origin J BERCHER B POND and J DUNCAN Presse med Ear 1935 43 979
- Adenocarcinoma of a thyroid vein in the tongue to the multiple metastasis with brachial arterial aneurism C MARCHAL P SODIEU C GROTTE and A ROY Bull et Mem Soc med d hop de Par 1935 51 953
- Radium dosage and technique in carcinoma of the tongue F E SIMMONS Am J Roentgenol 1935 34 63

Septic phlegmon of the floor of the mouth A DRAGONETTI and A WYBERT *Rev méd-quirúrg de patol femenina*, 1935, 3 554

Pharynx

Bilateral encapsulated peritonsillar abscess in a child A review of the literature and report of a case R W. TEED *Arch Otolaryngol*, 1935, 22 90

Some remarks on the pharyngeal lymphatics, and the indication for the tonsil and adenoid operation H G BEATTY *Ohio State M J*, 1935, 31 511

Diathermic tonsillectomy by electrocoagulation R C McLAUGHLIN *California & West. Med*, 1935, 43 39

Anesthesia for tonsillectomy. A P GORHAM *Brit M J*, 1935, 2 112

Neck

Comments on a case of cervicofacial and brachial actinomycosis R C FERRARI and F L NIÑO *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 239

An unusual tumor of the neck R E NORRISH *Brit J Surg*, 1935, 23 188

Removal of the lymph nodes of the neck in carcinoma DUCUNG, FABRE, and GOUZY *J de chir*, 1935, 45 849

The diagnosis and management of thyroid conditions F H LAHEY *West J Surg, Obst & Gynec*, 1935, 43 361

Individualization of the patient in the treatment of hyperthyroidism G CRILE and G CRILE, JR *Cleveland Clin Quarterly*, 1935, 2 23

Infectious diseases and hyperthyroidism A HOFMANN *Wien klin Wchnschr*, 1935, 1 80 [429]

Carbohydrate metabolism in human hypothyroidism induced by total thyroidectomy III A case of diabetes mellitus treated by total ablation of the normal thyroid gland A RUBY, H. L. BLUMGART, and D D BERLIN *Am. J M Sc*, 1935, 190 51

Abscess of the thyroid J. HENDERSON *Am J Surg*, 1935, 29 36

A summary of the goiter problem W D HAGGARD *South M & S*, 1935, 97 373

Thyroidectomy for endemic goiter B B. BAUGHMAN. *Kentucky M J*, 1935, 33 300

The impedance angle test for thyrotoxicosis I. Technique and study of normals M A B BRAZIER *West J Surg, Obst & Gynec*, 1935, 43 429

The action of di-iodothyroin on thyrotoxicosis M YRIART, A DAGNINO, and A E BIANCHI *Rev Asoc med argent*, 1935, 49 309

A report of practical experiences with the surgical treatment of Basedow's disease H HEIM *Chirurg*, 1935, 7 147

The cost of work in patients with hypermetabolism due to leukemia and to exophthalmic goiter S P. BRIARD, J T McCLENTOCK, and C W. BALDRIDGE *Arch Int Med*, 1935, 56 30

Special points in the technique of thyroid surgery R S DINSMORE *Cleveland Clin Quarterly*, 1935, 2 37

Total thyroidectomy for heart disease E C CUTLER *Minnesota Med*, 1935, 18 421. [429]

Total and subtotal thyroidectomy in the treatment of heart disease and angina pectoris G BANKOFF. *Arch f. klin Chr*, 1935, 181 590.

Parathyroidectomy and chronic rheumatism. L BE-RARD, H THIEBS, and M HENRY *Presse méd, Par*, 1935, 43 977

The operative treatment of vocal cord paralysis P. BLUEMEL *Beitr z klin Chr*, 1935, 161 103

Epidemic streptococcus laryngitis H TILLEY and D MCKENZIE. *Brit M. J*, 1935, 2 3

Röntgen therapy of laryngeal tuberculosis G BEC-CHINI *Polichin, Rome*, 1935, 42 sez prat 1189

Total laryngectomy P. C HUET and M ESCAT. *Presse méd, Par*, 1935, 43 793 [430]

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

The importance of percussion of the skull by the method of Benedek F KULSAR *Riforma med*, 1935, 51 745 [431]

Ventriculography by opaque injection E W TWINING and G F ROWBOTHAM *Lancet*, 1935, 229 122

Intracranial venous anomaly D H WERDEN *Am J Surg*, 1935, 29 115

The effect of anisotonic solutions on the brain and spinal fluid JORNS *Chirurg*, 1935, 7 201

Skull fractures and head injuries L S NELSON *J Kansas M Soc*, 1935, 36 275

A review of the management of fractures of the skull R BROWN *West J Surg, Obst & Gynec*, 1935, 43 371

Clinicopathological study of forty-seven fatal cases of craniocerebral injury P D ABRAMSON and W R MATTHEWS *Am J Surg*, 1935, 29 97

Brain damage in concealed cranial injuries MARBURG *Zentralbl f Chr*, 1935, p 770

Sedatives in acute cerebral trauma G PHILLIPS *Med J Australia*, 1935, 2 108

The treatment of concussion of the brain and basal fracture of the skull D KULENKAMPFF. 59 Tag d deutsch Ges f Chr, Berlin, 1935

The treatment of wounds of the brain with tampon and lumbar puncture by the method of Demmer E J MEIFR *Deutsche Ztschr f Chr*, 1935, 244 245

The indications for lumbar puncture following injuries of the cranium H HANKE *Klin Wchnschr*, 1935, 1 577

The treatment of post-traumatic intracranial hemorrhage with hypertonic glucose solution K KAMNIKER and W SPINREICH *Chirurg*, 1935, 7 239

The present status of the problem of anatomical pathology of epilepsy J. ARANOVICH *Rev Asoc med argent*, 1935, 49 345

Otogenic brain abscess B L BRYANT. *J Med, Cincinnati*, 1935, 16 253

Otogenous abscess of the parietal lobe, a review of the literature and a report of six cases C B COURVILLE and J M NIELSEN *Arch Surg*, 1935, 30 930 [431]

Rhinogenous abscess of the brain H H. VAIL. *J Med, Cincinnati*, 1935, 16 255

The treatment of brain abscess N CARTER. *J Med, Cincinnati*, 1935, 16 257

A case of encephalocoele. M CONTESTABILE *Polichin, Rome*, 1935, 42 sez chir 352

False traumatic encephalocoele B OGNEV *Nov Khir Arkh*, 1935, 35 397

Congenital cyst of the septum pellucidum. W TOENNIS *Zentralbl f Chr*, 1935, p 1018

Suprasellar arachnoid cyst. A. BARLOW *Arch Ophth*, 1935, 14 53

Pseudotumor cerebri A SILVERSTEIN *Am J Syphilis & Neurol*, 1935, 19 399

Roentgen findings in tumor of the brain and its coverings. F. SCHÖNBERGER and W. BRUNNEN. München. med. Wchnschr. 1935 2 663

Astrocytoma of the cerebellum in the child. G. LOISEL. Presse méd. Par. 1935 41 1030

The effect of intracranial tumors on the sella turcica. An analysis of 446 cases of verified intracranial tumor. K. KORNBLUM and L. H. OSWOLD. Arch. Neurol. & Psychiat. 1935 34 311

The operative treatment of hypophyseal tumors by the intracranial route. V. OSIPOVICH. Nov. Khir. Arkh. 1935 33 160

The surgical treatment of cerebral tumors (the operability of tumors of the third ventricle). J. ARCE and M. BALADO. Bol. inst. de clín. quir. Univ. de Buenos Aires 1934 10 234

A neuro-epithelioma of the fourth ventricle. L. CARNEVAL. Actas Soc. de ciruj. de Madrid 1934 4 7

Focal epileptic discharge in a case of tumor of the posterior temporal region. W. PENFIELD. Canadian M. Ass. J. 1935 33 32

Examinations of the lymph vessels of the meninges and serosa of animal and human fetuses. F. FISCHER. 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935 [432]

Injuries of the middle meningeal artery. F. WINKLER. Arch. f. klin. Chir. 1935 182 133

Streptococcal meningitis. report of a case with recovery. H. J. GRAY. J. Am. M. Ass. 1935 105 92

Angioblastic meningiomas. H. BERGSTRAND and H. OLIVECKOVA. Am. J. Cancer 1935 24 512 [432]

A tumor of the dura mater perforating the vault of the cranium. L. TORRACA. Arch. ital. di chir. 1935 39 653 [432]

Decompressive trephination. J. PÓLYA. Orvosi hetil. 1935 p. 283

Cistern (suboccipital) puncture. D. J. KRYDEL. Ohio Sta. M. J. 1935 31 49

Basic questions in surgery of the brain. F. SAUERBRECH. 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935

Observations in brain surgery. B. OROV. Med. klin. 1935 1 43

Indications and technique for the resection of individual cerebral lobes. W. TOEWAS. Chirurg 1935 7 233

A study of the optic tracts. M. BALADO, J. MALBRAN and E. FRANK. Arch. argent. de neuról. 1935 12 53

Radical operation of an acoustic nerve tumor by transverse incision of the cerebellum. H. VON HABERER. KROM. SHONEN. 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935

Spinal Cord and Its Coverings

Syringomyelia. D. E. GARCIA. Rev. med. d. Rosario, 1935 25 337 [432]

Syphilis of the spinal cord. N. W. WINKELMAN. Am. J. Syphilis & Neurol. 1935 19 378

The syndrome of cord compression due to intradural hydatid cyst. J. M. ALLENDE and O. LECHE. Bol. y trab. Soc. de ciruj. de Buenos Aires 1935 10 283

Intradural tumor of the spinal cord. A. J. OLSON. Minnesota Med. 1935 18 432

The diagnosis and treatment of extramedullary spinal tumors. A. SMITHSON and V. TUKKOJ. Nov. Khir. Arkh. 1935 33 370

The indications and results of paravertebral and paraspinal injections. F. MANOL. Rassegna internaz. di clin. e terap. 1935 16 570

Experimental injection of ethyl alcohol into the lumbar subarachnoid space with neuropathological studies. R. B. ASHD and H. C. NATZINGER. Wirt. J. Surg. Obst. & Gynec. 1935 43 377

The comparative value of lumbar and suboccipital puncture, their respective indications. G. LUTILLAY and P. MOLLARET. Bull. et mém. Soc. méd. d. hop. de Par. 1935 51 936

Intercostovertebral anastomosis in vertebral injuries with section of the lumbar spinal cord. A. CHASSAGNEY. J. de chir. 1935 46 54 [433]

Notochordal tumor of the cauda equina in a child of eight years. V. H. ELLIS. Brit. J. Surg. 1935 23 25

Fracture of spinal needles. G. R. VERNES. Northwest Med. 1935 34 254

Peripheral Nerves

The myoneural junction for a motor plaque in normal and pathological states. R. NOBLE and B. LOUET. Ann. d'anat. pathol. 1935 12 621

Peripheral neuritis caused by the prolonged use of dinitrophenol. J. E. NADLER. J. Am. M. Ass. 1935 105 22

A case of postoperative paralysis of the lesser peroneal nerve. R. N. SHIVJAN. Soviet. Khir., 1935 2 14

Sympathetic Nerves

Capillary microscopy in surgery of the sympathetic nervous system. W. DECK. Wien. med. Wchnschr. 1935 2 679

The treatment of vesical and vascular conditions by operation on the sympathetic nervous system. W. M. CRAIG. U. S. Nav. M. Bull., 1935 33 341

Catheterectomy for hyperhidrosis. F. L. PEARL and N. H. SHAPIRO. Ann. Surg. 1935 102 15

Bilateral removal of the stellate ganglion for inter-rebellious sinus tachycardia. operative results at the end of eighteen months. anatomical and physiological study of the thyroid gland and the stellate ganglion. R. LEROUX, L. BOCCHUT and R. FROMENT. Presse méd. Par. 1935 43 1041

Splanchnic nerve section in juvenile diabetes. G. DE TAKAR. Ann. Surg. 1935 102 22

Anterior extrapontal approach to the lumbar sympathetic nerves. J. G. FLOWERS. Am. J. Surg. 1935 50 43

A new experimental and clinical contribution on surgery of the lumbosacral sympathetic nerves. V. SANTOS. Perich. Brit. J. Clin. Chir. 1935 161 442

The anatomical and physiological basis for lumbosacral sympathectomy. H. BRACKENFEL. 59 Tag d. deutsch. Ges. f. Chir. Berlin 1935

Miscellaneous

Cutaneous innervation. An experimental study. L. H. LANTIER, H. M. CARNEY and W. D. WILSON. Arch. Neurol. & Psychiat. 1935 34 1

Nerves of the testis and ovary. medical and surgical considerations. F. BOUSQUET. Presse méd. Par. 1935 43 685

Effects of the intravenous administration of hypertonic solutions of sucrose with special reference to the cerebrospinal fluid pressure. J. H. MASSERMAN. Bull. Johns Hopkins Hosp. p. Balt. 1935 51 12

Advances in neurosurgery and their value to the general practitioner. H. ROEBECK. Fortschr. d. Therap. 1935 11 1 89 143 208

A comparative study of modern methods of neurosurgical diagnosis. M. BALADO and R. CARRELL. Bol. inst. de clín. quir. Univ. de Buenos Aires 1934 10 265

Severe angina pectoris operated upon and relieved. April 1917. GORDON and MOORE. Bull. M. mém. Soc. méd. d. hop. de Par. 1935 51 1004

SURGERY OF THE THORAX

Chest Wall and Breast

- Pathological changes induced in the mamma by estrogenic compounds H BURROWS Brit J Surg, 1935, 23 191
- The patient's complaint is of the breast D V TRU BROW West J Surg, Obst. & Gynec, 1935, 43: 492
- A contribution to the study of the bleeding breast A BELLIU Policlin, Rome, 1935, 42 ser chir 325. [134]
- Typhoid abscess about the lower end of the sternum J A GANNON J Am M Ass, 1935, 105 113
- Spontaneous rupture of a cold abscess of the chest wall A S JOHNSON J Am M Ass, 1935, 105 200
- Pulsatile and precordial tumor M ACUNA and A PUGLISI Semana med, 1935, 42 1700
- Classification of tumors of the breast J PATIL Presse méd, Par, 1935, 43 907
- A huge fibro adenoma of the breast K MUELLER Brit J Surg, 1935, 23 234
- The classification of malignancies of the breast TOKO Arch. di ostet e ginec, 1935, 42, 383
- Adenofibroma (fibro adenoma) malignum of the breast M D LINDSAY and H C SCHMIDT South M J, 1935, 28 594
- Carcinoma mammae occurring in a male mouse under continued treatment with estrin H BLIFOW Am J Cancer, 1935, 24 613
- Röntgen therapy in mammary cancer R G GILES South M J, 1935, 28 620
- The place of surgery in early carcinoma of the breast A NEWTON Med J Australia, 1935, 2 60
- The place of surgery in the treatment of the later stages of cancer of the breast B T LLOYD Med J Australia, 1935, 2 72
- The place of deep therapy in carcinoma of the breast A T. NISBET Med J Australia, 1935, 2 75
- Notes on the occurrence and treatment of metastases in carcinoma of the breast T H ACKLAND Med J Australia, 1935, 2 80
- Sea-sponge dressing to promote healing and arm function following radical breast amputation M J REMOIN and T G ORP South M J, 1935, 28 609

Trachea, Lungs, and Pleura

- Bronchoscopy J S KNIGHT J Missouri State M Ass, 1935, 32 264
- Depression of muscle tonus as the cause of atelectasis Y HENDERSON Lancet, 1935, 229 178
- A study of the mechanics of the production of spontaneous pleuropulmonary perforations D F ABELL Med Ibera, 1935, 19 930
- Experimental pulmonary mycosis D DONATI Ann ital di chir, 1935, 14 161
- Some roentgenological observations regarding pulmonary silicosis in porcelain workers G JOHNSON Acta radiol, 1935, 16 431
- The treatment of hydatid cyst of the lung U GONZÁLEZ Medicina, Madrid, 1935, 6 449
- Tuberculosis and cancer of the lung G PERNÚS Arch de med, cirug y especial, 1935, 16 380
- Healing of tuberculous cavities L S T BURRELL Brit M J, 1935, 2 102
- Alcohol therapy for pulmonary tuberculosis The effect on the sputum H D GONZÁLEZ and L CHAROSKY. Rev Asoc med argent, 1935, 49 289
- The status of lung compression in the treatment of pulmonary tuberculosis M ROCHES J Oklahoma State M Ass, 1935, 28 247
- Collapse of pulmonary cavities in the treatment of tuberculosis L HILTI 50 Tag d. deutsch Ges f. Chir, Berlin, 1935.
- The administration of artificial pneumothorax under fluoroscopic guidance J BIRBY and L COMAN Radiology, 1935, 25 1
- Refractility and expansibility of the lung during artificial pneumothorax R SWANENHOUT Presse méd, Par, 1935, 43 1030
- The interpretation of pleural pressure in pneumothorax, optimal collapse P LITVINE and J DELANNOY Presse méd, Par, 1935, 43 1048
- Contralateral pneumothorax TONI, DI GEORGES, SALMON, and JULY. Presse méd, Par, 1935, 43 946
- Contralateral pneumothorax M ASCONI Policlin, Rome, 1935, 42 ser chir 325
- Surgical indications in complications of pneumothorax W FICK 50 Tag d. deutsch Ges f. Chir, Berlin, 1935
- The hazards of the induction of pneumothorax in the treatment of lobar pneumonia J. G. M. BULLOW and I. MAYR J. Am M Ass, 1935, 105 101
- The present status of oleothorax in the treatment of tuberculosis A SARNO, R LATVALA, A APTAGAVANTIA, and J SCITO Arch uruguayos de med, cirug y especial, 1935, 6 561
- A new combined thoracoscope for intrapleural pneumolysis or the operation of Jacobaeus A A LINDANDEL Med Ibera, 1935, 19 820
- The aftermath of apicectomy A H PAPPOTT and A W WELLINGS Proc Roy Soc Med, Lond, 1935, 28 1203
- Anatomical fundamentals of high thoracoplasties I N CORONAS Chin y lib, 1935, 20 537
- Thoracoplasty with extrapleural apicectomy C SEMM Acta chirurg Scand, 1935, 76 Supp 37, II [434]
- Thoracoplasty and gangrene of the lung C JULIARD Rev méd de la Suisse Rom, 1935, p 409
- Resection of the transverse processes in thoracoplasty E SUTRO Rev méd de la Suisse Rom, 1935, p 556
- The treatment of pulmonary abscess N N STOICITZA Presse méd, Par, 1935, 43 1008
- Bronchiectasis E FULTCHER J Thoracic Surg, 1935, 4 460
- Bronchiectasis J H SKAVLEN J Med, Cincinnati, 1935, 16 250
- Pathological changes in the intramural ganglion apparatus in bronchiectasis P SUNDL-PLESSMANN 50 Tag d. deutsch Ges f. Chir, Berlin, 1935
- Bronchiectasis and thrombosis of the bronchial artery P ARZUFFI and J M. LEMORI Presse méd, Par, 1935, 43 873 [436]
- The varied pathological basis for the symptomatology produced by tumors in the region of the pulmonary apex and upper mediastinum J. BROWDER and J A DEVERE Am J Cancer 1935, 24 507 [436]
- The early classification and early diagnosis of cancer of the bronchus M S LLOYD New England J Med, 1935, 213 101
- Primary bronchopulmonary carcinoma L SAGAZ Arch de med, cirug y especial, 1935, 16 412
- Suppurative carcinoma of the lung J PAUCHARD Presse méd, Par, 1935, 43 1030
- Total pneumectomy for cancer of the left lung O LAMBERT Bull et mém Soc nat de chir, 1935, 61 801

- Pneumectomy O IVANISSEVICH and R C FERRARI
Semanal med 1935 41 1765
- Total pneumectomy a new operative technique extra
pleural exopneumotomy A CEBALLOS Bol y trab Soc
de ciruj de Buenos Aires 1935 19 25
- Pleural inflammations. A photographic and photomicro
graphic study G DERSCHIN and P TOU SAINT Presse
med. Par 1935 43 1069 [436]
- Sudden death in the course of serofibrinous pleurisy
J TRONIER, M BARIETY and H BROCARD Presse med.,
Par 1935, 43 1019 [436]
- The toxic action of odorous pus in pleural empyema
E SCHNEIDER Deutsche Zeitschr f Chir 1935 244 521
- Aspiration treatment of empyema in children R A
SKROVO J Iowa State M Soc 1935 25 334
- The treatment of non tuberculous empyema C LEVINE
MAINT Rev med de la Suisse Rom. 1935 p 389
- The treatment of tuberculous empyema A SARNO J
Sciutto and R PRAGLIO Arch uruguayos de med
ciruj y especial 1935 6 553
- Oophorax and gelatinothorax in tuberculous empyema
I D GÓMEZ and J L NEGRO Arch. uruguayos de med
ciruj y especial. 1935 6 561

Heart and Pericardium

- A case of injury to the heart. P MAZZEO Nov Khir
Ark. 1935, 33 584
- A knife wound of the heart. A MINNEN Nov Khir
Ark. 1935 33 583
- Stab wound of the heart H J WARTHEV Ann Surg
1935 102 152
- The surgical treatment of fresh wounds of the heart.
K VERKOVANOV Nov Khir Arkh 1935 33 5,6
- The surgical treatment of foreign bodies in the heart.
V A. ULON Bol int. de clin quir Univ de Buenos
Aires 1934 10 210
- Migration of a needle into the heart through the chest
wall surgical removal Electrocardiographic and roent
genographic studies H A GOLDBERGER and H F CLARK.
J Am M Ass 1935 103 193
- Radiological dimension of the cardiovascular fluid from
the third to the seventeenth year A OLIVERI. Radiol
med 1935 12 608

- Tumors of the heart. F C HEINIG J Kansas M Soc.
1935, 36 263
- Adherent pericardium results of the Brauer operation
G JONA Polichin Rome 1935 42 sez prat. 1335

Esophagus and Mediastinum

- The surgical anatomy of the thoracic esophagus. F
LAVAZZO Riv di chir 1935 1 100 [437]
- Röntgen diagnosis of foreign bodies in the esophagus
with particular reference to the secondary symptoms and
local swelling of the esophageal wall S K KJELLBERG
Acta radiol. 1935 15 4 8
- Diverticula of the esophagus ligation of the pedicle
resection recovery J ARCE Bol inst de clin quir
Univ de Buenos Aires 1934 10 247
- Retrograde esophagoscopy for carcinoma of the esopha
gus G H STEELE Brit M J 1935 3 63
- Dilatation of the esophagus for cancer G LOTWE Bull
et mém Soc nat de chir 1935 61 739
- Acute suppuration of the mediastinum. W B FARWELL
New York State J M 1935 35 7 4

Miscellaneous

- A contribution on traumatic chylothorax BRAVO
DÍEZ CASTEJO and HUERRA. Actas Soc. de ciruj de
Madrid 1934 4 6
- Traumatic intrathoracic rupture of the thoracic duct
with chylothorax G R LITTLE and G W FOR. Ann.
Surg 1935 103 1367 [437]
- Diaphragmatic hernia J E JENNINGS. Ann Surg
1935 102 138
- A case of congenital diaphragmatic hernia J S DALL
Canadian M Ass J. 1935, 33 73
- Evagination of the right diaphragm. Report of a
case with a review of the literature chiefly from the stand
point of etiology and diagnosis L FELDMAN I M TRACE
and M I KAPLAN Ann Int Med 1935 9 62
- Late result of a thoracophrenic laparotomy for diaphra
matic hernia P HOLT Bull et mém Soc nat. de chir
1935 61 861
- Closed methods of anesthesia in the surgery of the chest.
J HALTON Brit. M J 1935 2 159

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- Hernia as an industrial accident. J M S BORDOZA
Prog de la clin Madrid 1935, 23 393
- Hernia in railroad employees. C C GREEN South
M J 1935 28 649
- The operative treatment of large incisional hernias The
success of our technique A W MEYER and H LAATZ
Beitr z klin Chir 1934 160 612
- Intestinal hernia S K BEIGLER J Michigan State
M Soc 1935 34 423
- The importance of the transversalis fascia in the devel
opment of inguinal hernia. COFFET Monatschr f Unfall
heilk 1935 42 122 [438]
- Inguinal hernia with incarcerated ovary and tube L V
RUSCH and H L RUSCH Am J Surg 1935 25 149
- Umbilical hernia in children and its treatment B
FREDNER. 1934 Kiel Dissertation
- Hernia into the umbilical cord J K NARAY Ann.
Surg 1935 102 152

- The ambulant treatment of hernia A F BRATTS
Minnesota Med 1935 18 442 [438]
- Goepel's silver ring net in the treatment of postopera
tive ventral hernia and umbilical hernia W STARKLOFF 1934
Leipzig Dissertation.
- The basis technique and excision of the Basilio
herniotomy A CATERINA 59 Tag d. deutsch Ges f
Chir Berlin 1935
- Relaxation of the abdominal wall and of bowel tones in
laparotomies with particular reference to narcylene an
esthesia. E MOERLEK. Schmerz, 1935 8 15
- Valvular pneumoperitoneum G B MYERS T H
BARE and J E LOYSTROM Ann Surg 1935 102 144
- The pathogenesis of encapsulating peritonitis L S
POSVIAN KY Soviet Khir 1935 2 60
- A case of chronic encapsulating peritonitis W
VAN ROOSUM. Nederl. Tijdschr v Geneesk. 1935, p 2213
- The treatment of diffuse purulent perforating peritonitis
G HOFMANN 59 Tag d. deutsch Ges. f Chir Berlin
1935

A case of biliary peritonitis without visible perforation
SOLCARD and PÉRVES Bull et mém. Soc. nat. de chir,
1935, 61 828

Two cases of pneumococcal peritonitis simulating acute
appendicitis BAUDER and CAHUZAC. Bull et mém. Soc.
nat. de chir., 1935, 61 730

Pneumoparacentesis in the ascitic type of tuberculous
peritonitis A SCATURRO Policlin, Rome, 1935, 42 sez
prat. 1129

The value of the great omentum H ZSCHAU Deutsche
med. Wchnschr., 1935, 1 669

Omental torsion with unusual symptoms C R SALS-
BURY Brit J. Surg., 1935, 23 115

Mesenteric adenitis and BCG vaccine G AIGROT
Bull et mém. Soc. nat. de chir., 1935, 61 794

Mesenteric venous thrombosis S WARREN and T P
EBERHARD Surg., Gynec & Obst., 1935, 61 102

Gastro-Intestinal Tract

Progress in gastro-enterology in the past years P
DESTRÉE Bruxelles-méd., 1935, 15 956

Roentgenological studies of the stomach, with special
reference to the rugæ J. S BOUSLOG Colorado Med.,
1935, 32 524

The importance of mucin in the acid balance of the
stomach R H MONCEAU Presse méd., Par., 1935, 43
988

The effect of fundusectomy on the acidity of the gastric
and duodenal content, an experimental study J R
WATSON Arch Surg., 1935, 31 1

Studies on the physiopathology of the stomach L
CARDENAL and S MARTÍNEZ. Actas Soc. de cirug. de
Madrid, 1934, 4 61

Gastric motility following left phrenic exeresis M
GAVAZZINI Policlin, Rome, 1935, 42 sez prat. 1343

Cardiospasm. A report of two cases with postmortem
observations P B MACCREADY Arch Otolaryngol.,
1935, 21 633 [438]

The operative treatment of pylorospasm in infants H
KEHL and O THOMANN Zentralbl. f. Chir., 1935, p. 963

Inflammatory stenosis of the pylorus with paralytic di-
latation of the stomach R A GUTMANN and R JAHIEL
Bull et mém. Soc. méd. d. hop. de Par., 1935, 51 959

Pyloric stenosis due to biliary calculus having passed
from the gall bladder into the stomach by perforation,
cholecystectomy, removal of the calculus, suture of the
stomach, gastroenterostomy, recovery H FRUCHAUD
Bull et mém. Soc. nat. de chir., 1935, 61 899

Resection of the pylorus and palliative resection of the
pylorus and antrum for peptic ulcer of the jejunum K
RESCHKE 59 Tag d. deutsch. Ges. f. Chir., Berlin, 1935

Complications of resection of the pylorus by the Billroth
method S SMIRNOV Nov. Khir. Arkh., 1935, 33 277

Severe gastric hemorrhage following operations upon the
bones E PAPIN Bordeaux chir., 1935, p. 187

Experimental study on the pathogenesis of gastric ulcer
R PALMA Arch. ital. di chir., 1935, 39 701

What can be said for the digestive traumatic patho-
genesis of gastric ulcer G BAGGIO Policlin, Rome, 1935,
42 sez prat. 1237

The co-existence of gastric and biliary ulcer with biliary
lithiasis A ROBBIANI and C A TANTURI Semana méd.,
1935, 42 1702

Two cases of achalasia of the cardia associated with
chronic gastric ulcer H J STARLING Guy's Hosp. Rep.,
London, 1935, 85 197

Experimental studies on the effects of the perforation of
peptic ulcers A BLAILOCK Surg., Gynec & Obst., 1935,
61 20

Ulcer perforation with uncertain findings K NELLER
Zentralbl. f. Chir., 1935, p. 1275

The absence of muscular rigidity in perforation of gastro-
duodenal ulcer A CATALINA Actas Soc. de cirug. de
Madrid, 1934, 4 41

The modern method of medical treatment of gastroduo-
denal ulcer M C LLADÓ and T. TORNER Rev. méd. de
Barcelona, 1935, 12 435

Gastric and duodenal ulcers, factors essential to their
successful medical management G B EUSTERMANN Wis-
consin M. J., 1935, 34 473

Alkalosis in the treatment of peptic ulcer W OAKLEY
Lancet, 1935, 229 187

Histidine treatment of peptic ulcer of the lesser curva-
ture D SMITH Brit. M. J., 1935, 2 154

The use of the "permanent" jejunal tube in the treat-
ment of gastric ulcer. W. GILGES and F. P. WEBER. Prac-
titioner, 1935, 135 83

Gastric ulcer from the surgical point of view H. BUL-
LOCK Med. J. Australia, 1935, 2 40

The surgical aspects of bleeding gastric and duodenal
ulcer J. J. WESTERMANN Ann. Surg., 1935, 101 1377
[439]

Hemocytometric variations in gastroduodenal ulcer be-
fore and after operation A PRINCIGALLI Ann. ital. di
chir., 1935, 14 123

Sequelæ of peptic ulcer following medical and surgical
treatment J W HINTON Arch. Surg., 1935, 31 137

A case of gastrojejunal fistula J H OLTRAMARE
Rev. méd. de la Suisse Rom., 1935, p. 517

Gastro-intestinal polyposis. W. GEJROT Nord. med.
Tidskr., 1935, p. 452

Infective granuloma of the stomach A KOLODNY. Ann.
Surg., 1935, 102 30

Intrapertoneal insertion of radon and gastro-enteros-
tomy in carcinoma of the pyloric end of the stomach I
LEVIN. Am. J. Roentgenol., 1935, 34 69

Short-circuiting operations for inoperable carcinoma of
the stomach H WESTHUES 59 Tag d. deutsch. Ges. f.
Chir., Berlin, 1935

Fibrosarcoma of the stomach D C COLLINS and V S
COUNSELLER Ann. Surg., 1935, 102 34

Pre-operative and postoperative treatment of gastric dis-
ease T G ORR. Am. J. Surg., 1935, 29 26

The choice of operation in benign diseases of the stomach
S SELDOOSKY and T. RYBAK Nov. Khir. Arkh., 1935,
33 793

Gastric resection under spinal anesthesia with percam.
R BROGLIO Policlin, Rome, 1935, 42 sez prat. 1088

Vaccination in gastric resection J M MADINAVEITIA.
Actas Soc. de cirug. de Madrid, 1934, 4 75

Duodenal fistulas following gastric resection R PALMA
Arch. ital. di chir., 1935, 39 609

Wound healing after anterior gastro-enterostomy II.
The fate of mucosal inclusions and their prevention, de-
scription of a new suture technique An experimental
study in dogs K H MARTZLOTT and G R. SUCKOW.
Arch. Surg., 1935, 31 10

Prolapse of the gastric mucosa into a gastrojejunal anas-
tomosis following gastrectomy A TIERNY Bull et mém.
Soc. nat. de chir., 1935, 61 820

The effect of eserine on intestinal motility G. S. de la
CUESTA Med. rev. mexicana, 1935, 15 282, 307

The vicious circle of intestinal pathology. H. GAER-
LINGER Bruxelles-méd., 1935, 15 815

Volvulus neonatorum L P WERSHUB Am. J. Surg.,
1935, 29 128

Intestinal obstruction due to double mechanism (vol-
vulus and bands) O AMOROSI Ann. ital. di chir., 1935,
14 191

- bowel obstruction in children due to ascariasis H HARTSH Ugeek f Lager 1935 p 80
- Intestinal obstruction due to a non biliary ovalophosphatic enterolith Ho Dao Di Bull et mem Soc nat de chir 1935 61 832
- Apertures in the mesentery and the incarceration of the intestines. L DUNJE Nov Khir Arkh 1935 33 448
- Carcinoma and bowel obstruction A HINTZE 50 Tag d deutsch Ges f Chir Berlin 1935
- Intestinal infarction and hernial strangulation, a case of acute exten ive enteritis with fatal termination following reduction of a strangulated hernia E CANTILLER Bull et mem Soc nat de chir 1935 61 799
- An intestinal infarct without a vascular lesion P MOUKOGUER Bull et mem Soc nat de chir 1935 61 866
- Vesico intestinal fistula H L LELAND New England J Med, 1935 213 44
- The pathology of intestinal carcinoma J FEISEN Ann Surg 1935 102 61
- Indications for enterostomy with special reference to the technique G W HARK Pennsylvania M J 1935 38 782
- The technique of enterostomy F BREITZUS Nov Khir Arkh, 1935 33 417
- The vulnerable areas of the small bowel in closed trauma of the abdomen VENGOR HOMAR and PICARD Presse med Par 1935 43 931
- Contributions on the problem of intestinal invagination H FUSSE and L. LEVINS Beitr z klin Chir 1935 161 11, [439]
- A contribution to the roentgen diagnosis of gall stone ileus A SCHULZ Acta radiol 1935 16 456
- Phlegmon of the small bowel and colon due to a simple enteritis or erosive colitis G E KOVETZKY Zentralbl f Chir 1935 p 978
- An antraloduodenal pouch J C BOILEAU GRANT Brit J Surg 1935 23 233
- Chronic duodenal ileus in infancy and childhood R MILLER and H C GAGE Lancet 1935 229 115
- Duodenitis in childhood J B GILLESPIE and C GIANNI Am J Dis Child, 1935 50 153
- Duodenal ulceration in a five year-old boy N D GANNO Pennsylvania M J 1935 38 843
- Duodenal ulcer and Bant's disease J E JENNINGS Ann Surg 1935 102 135
- Fat necro is a sociated with perforated duodenal ulcer M J SMITH Lancet 1935 229 15
- Partial gastrectomy for bleeding duodenal ulcer R LEWIS Ann Surg 1935 102 142
- Determination of the resectability of deep duodenal ulcers O BYER Chirurg 1935 1 249
- The prevention of postoperative duodenal fistula O BYER Zentralbl f Chir 1935 p 862
- Free perforation of jejunal ulcer L W WILLIAMSON Am J Surg 1935 9 220
- Vicious jejunoocolostomy with chronic ileal obstruction F CHRISTOPHER Am J Surg 1935 29 124
- Neocolitis Acute ileocolitis simulating appendicitis and characterized by edema of the ileocecal region and mesenteric glands its relation to regional ileitis or chronic catarrhing enteritis I H ERM and A W PARKER Surg Gynec & Obs 1935 61 6
- The diagnosis of Meckel's diverticula V POPOV Nov Khir Arkh 1935 33 435
- Severe melena from a polyp of Meckel's diverticulum H J STABLEY Cuy's Hosp Rep Lond 1935 85 207
- Carcinoid tumor of a Meckel's diverticulum Report of a case I PRINCE Brit J Surg 1935 23 20
- The physiology and mechanics of the colon J W KELLER Med Rec, New York 1935 142 87
- Congenital malformation of the large bowel J A MACKENZIE Brit M J 1935 2 61
- The innervation and muscular activities of the distal colon with a note on the surgical treatment of constipation. H C TREMBLE Brit J Surg 1935 23 214
- The formation of megacolon following anastomosis of the large bowel because of chronic obstruction P ZAVIER Zentralbl f Chir 1935 p 638
- Melanosis coli its clinical significance A J ZOBEL and D A SUGROW Arch Surg 1935 30 94
- The diagnosis and prognosis of epithelial tumors of the large bowel W A TANSLER J Am M Ass 1935 103 167
- A clinical study of carcinoma of the colon. V MIXA and M SANGER Nov Khir Arkh 1935 33 20
- The surgery of the colon exclusive of operations for tumors and cysts and on the appendix L DOWNER Arch ital di chir 1934 33 31
- The appendix vermiformis in infancy and childhood F L BAKER Pennsylvania M J 1935 38 783
- Lead poisoning simulating acute appendicitis P GOINARD Bull et mem Soc nat de chir 1935 61 873
- Appendicitis a challenge E G RAM OELL New York State J M 1935 35 673
- The tragedy of appendicitis C D BROOKS J Michigan State M Soc 1935 34 417
- Filamented nonfilamented cell count in appendix in children S D MILLIS Am J Dis Child 1935 50 36
- Acute appendicitis A TURNEY W Scotland M J 1935 34 456
- Acute appendicitis in infants and child A S RUSSELL Oklahoma State M Ass 1935 28 244
- Acute appendicitis in dogs an experimental study E R. SCHMIDT and A C TAYLOR Arch Surg 1935 31 63
- Acute appendicitis with flat worms T ALTENBERG Munchen med Wchnschr 1935 1 413
- Disadvantages of routine in the treatment of acute appendicitis V SVJATKOVICH Nov Khir Arkh 1935 33 491
- Serum therapy of gangrenous appendicitis and peritonitis. M WERNBERG and M LIQUORER Presse med Par 1935 43 877
- Fibroplastic appendicitis simulating a tumor V JERU Zentralbl f Chir 1935 p 1007
- Consideration of the treatment of cecocolic appendicitis E D CLARK and J F BURMAN Indiana State M Ass 1935 23 320
- Four new cases of obstruction due to appendicitis four cures. P HERTZ Bull et mem Soc nat de chir 1935 61 195
- Intravenous carbon as a valuable adjunct to the treatment of acute postappendicular peritonitis E SERV JACQUES J de med de Bordeaux 1935 112 475
- The mortality of appendicitis J C STOREY Mel J Australia 1935 1 639
- The mortality in operations for appendicitis T EISEN Ugeek f Lager 1935 p 435
- Carcinoid of the appendix J S JELLI Rev de chirug de Barcelone 1935 5 48
- The technique of appendectomy T RAEV Nov Khir Arkh 1935 33 369
- The revision of the technique of appendectomy C MELKOVIAN Nov Khir Arkh 1935 33 359
- Circular inverting suture technique for use in appendectomy D NIKOVA Am J Surg 1935 29 93
- A case of simple rectal ulcer A I MIRO on Soviet khir 1935 2 121

Recent advances in the treatment of rectal diseases by injection methods in ambulatory patients I The use of Gabriel's modified solution in the treatment of fissure-in-ano N STEINBERG *New England J Med*, 1935, 213: 162

Discussion on the radium treatment of malignant disease of the rectum and anus *Proc Roy. Soc Med, Lond*, 1935, 28 1251

Predisposing factors and the diagnosis of rectal cancer E G MARTIN *Ann Surg*, 1935, 102 56

External irradiation in rectal cancer J J DUFFY *Ann Surg*, 1935, 102 77

Gold radon seeds in rectal cancer G E BINKLEY *Ann Surg*, 1935, 102 72

The one-stage abdominoperineal operation for carcinoma of the rectum T E JONES *Ann Surg*, 1935, 102 64

Two-stage operation for rectal cancer F C YEOMANS *Ann Surg*, 1935, 102 68

Extensive perineal amputation for cancer of the rectum F MORAND *Rev de chir*, 1935, 54 493

The radical operation for carcinoma of the rectum on the basis of clinical material of the last ten years E GOLD and O STRIZKO *Arch f klin Chir*, 1935, 182 31 [440]

Anal anatomy with reference to the white line of Hilton and the pecten of Stroud R. I HILLER *Ann Surg*, 1935, 102 87

The treatment of pruritis ani A ZENO and R NOSTI *Bol Soc de cirug de Rosario*, 1935, 2 52

The treatment of hemorrhoids S DE RIVERA *Medicina*, Madrid, 1935, 6 514

The non-operative treatment of hemorrhoids A C PLANAS *Rev méd de Barcelona*, 1935, 12 325

The injection treatment of hemorrhoids O MUELLER *Med Klin*, 1935, 1 486

Anal fistulas, ambulatory treatment of extrasphincteral fistulas R KAUFMANN *Presse méd, Par*, 1935, 43 954

The closing of an artificial anus B FRANKENBERG and A GADGIEV *Nov Khir Arkh*, 1935, 33 542

Liver, Gall Bladder, Pancreas, and Spleen

A brief discussion of the biliary problem R L RHODES *J Med Ass Georgia*, 1935, 24 259

The synthesis of hippuric acid, its value in detecting hepatic damage secondary to diseases of the extrahepatic biliary system P F VACCARO *Surg, Gynec & Obst*, 1935, 61 36

When is operation indicated in biliary tract disease? H FINSTERER *Med Klin*, 1935, 1 601, 639

Functional tests of the liver V CATALANOTTI *Rassegna internaz di clin e terap*, 1935, 16 526

The bilirubin and urobilin in pigmentary hepatic insufficiency A L GARCIA *Rev méd Lat-Am*, 1935, 20 731

A fatal case of jaundice R M LITTLEDALE *Brit M J*, 1935, 2 11

So-called "liver death", clinical and experimental study I F BOYCE and E M McFETRIDGE *Arch Surg*, 1935, 31 105

Intrahepatic stones C SLOTVER *Nov Khir Arkh*, 1935, 33 510

Trabecular adeno-epithelioma of the liver, surgical removal, cure over a period of three years A BAUMGARTNER and N FIESSINGER *Bull et mém Soc. nat de chir*, 1935, 61 772

A case of primary carcinoma of the liver S A THOMSON *Canadian M Ass J*, 1935, 32 675

Surgical aspects of diseases of the liver and biliary tract H R G POATE *Royal Prince Alfred Hosp Year Book*, 1934, p 78.

Total extirpation of a hydatid cyst and resection of the liver V ASTRAKHANSKY *Nov Khir. Arkh*, 1935, 33 424

Cholecystography E N COLLINS *Cleveland Clin Quarterly*, 1935, 2 16

Cholecystography A C MOONEY *Brit J Radiol*, 1935, 8: 403 [440]

Double oral administration of dye for cholecystography. I W JACOBS *U S Nav. M Bull*, 1935, 33 362.

Acute cholecystitis J McKENTY *Canadian M Ass J*, 1935, 33 59

Cholecystitis simulating echinococcus cyst R VAL-KÁNYI. *Wien klin Wchnschr*, 1935, 1: 592

Giardia infestation of the gall bladder and intestinal tract R M CALDER and R H RIGDON *Am J. M Sc*, 1935, 190 82

Emergency cholecystectomy for severe acute cholecystitis A J BENGOLEA *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 254

Emergency cholecystectomy in severe acute cholecystitis A GALLO *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 268

Emergency cholecystectomy for severe acute cholecystitis R L MASCIOTTRA *Rev méd-quirúrg de patol femenina*, 1935, 3 542

Biliary peritonitis without visible perforation, cholecystitis due to typhoid bacillus; cholecystectomy, recovery. M SALMON *Bull et mém Soc nat de chir*, 1935, 61. 878

Cholelithiasis in a child of three years and eight months W S BROWN *Med. J. Australia*, 1935 2 53

Surgical problems associated with cholelithiasis R S DINSMORE *Wisconsin M J*, 1935, 34 467

Gas gangrene of the gall bladder M C RODRIGUEZ *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 272

Lymphatic stasis in the genesis of lipoidosis of the gall bladder A MORATTI *Clin chir*, 1935, 11 357 [440]

Liver deaths following surgery of the gall bladder H. W. HEWITT. *J Michigan State M Soc*, 1935, 34 421

Air in the bile passages A review and report of a case S CANDEL and W L WOLFSON *J Am M Ass*, 1935, 105. 188

Injuries to the bile ducts and pancreatic ducts in resection of the stomach G BRANDT 59 Tag d deutsch Ges f Chir, Berlin, 1935

Papillary colloid adenocarcinoma of the extrahepatic bile ducts W. WALTERS and P. F OLSON *Minnesota Med*, 1935, 18 460

Experiences in the Giessener Clinic in surgery of the biliary passages F BERNHARD 59 Tag d deutsch Ges f Chir, Berlin, 1935

Plastic replacement of the extrahepatic biliary passages H KUNTZEN *Zentralbl f Chir*, 1935, p 1021

The late results of operations on the bile ducts E SHAKHBAZJAN, D MARTYNOV, and T NOVIKOVA *Soviet Khir*, 1935, 2 103

Stricture of the common bile duct K H AYNESWORTH *Am J Surg*, 1935, 28 562 [441]

The technique of operation on the common bile duct A W ALLEN and R H WALLACE *Am J Surg*, 1935, 28 533 [441]

Resection of the hepatic duct and the ductus choledochus because of carcinoma R. DEMEL *Arch f klin Chir*, 1935, 182 148

The pancreas in diseases of the liver N SANGUIGNO *Riforma med*, 1935, 51 703.

Diverticulum of the duodenum as the etiology of certain types of pancreatitis P. MOURE and J MIALERET *Bull. et mém Soc nat de chir*, 1935, 61 851.

Acute edematous pancreatitis in chronic pancreatitis CUNEO and TAILHEFER *Bull et mém Soc nat de chir*, 1935, 61 864

- The surgical treatment of acute pancreatitis. R GREGOIRE Bull et mém Soc nat de chir. 1935 61 750
- Pancreatic lithiasis. T C BOSE Am. J Surg 1935 29 85
- Acute pancreatic necrosis. F S JOHNS South M & S 1935 97 377
- Subtotal pancreatectomy for hyperinsulinism. J M MCCABHAN Ann Surg 1935 101 1336 [443]
- Anastomosis between the pancreatic ducts and the gastro-intestinal tract. L GORSHANOV 59 Tag d deutsch Ges. f Chir Berlin 1935
- The effect of adrenalin injection on the blood of patients with and without spleens. A J PATEK JR and C A DALAND Am J M Sc. 1935 100 14
- Spontaneous rupture of the spleen. W D CALLOWAY Brit. J Surg 1935 23 235
- Spontaneous rupture of the spleen. A SYADSKY Nov Khir Arkh 1935 33 156
- Myotic splenomegaly. T IAVLOVSKY Nov Khir Arkh 1935 33 100
- Indications for splenectomy in malarial splenomegaly. T KOLEVICHENKO Nov Khir Arkh 1935 33 422

- Splenectomy in cirrhotic hypertrophic aniterna^a splenomegaly. J CAROLI and M CORPO Polichin Roma 1935 42 ser prat 1123
- Reticulo-endotheliosis. Gaucher's disease. L GONZALEZ RUBIO and J M IGLESIAS PARGA. 4th de med. cirug y especial 1935 16 357

Miscellaneous

- Strangulated internal hernia. G F LANGLEY Brit. J Surg 1935 23 119
- Tuberculosis of the ileocecal region. L M BORCKHIV Soviet Khir 1935 2 126
- Liposarcoma of the abdomen with ovarian metastases. C DAVIEL and A. BABES Gynec. st obst 1935 10 115
- Retropitoneal lipomyosarcoma. C WILLIAMS. J Am. M Ass. 1935 105 191
- Laparotomy in painful abdominal crises. J MORARO Bull. et mém Soc nat. de chir. 1935 61 8 1
- Structural changes in the blood plasma protein following laparotomy under local anesthesia. S LAZKA Magyar Nögyógy 1935 4 59

GYNECOLOGY

Uterus

- The architectonic differences of collagen in a non pregnant uterus in various stages and in the pregnant uterus during different months of pregnancy. G VALLE Cine cologia Torino 1935 1 663
- Double uterus. GUTHEM Bull Soc. d obst. et de gynéc. de Par 1935 24 365
- The gynecological significance of bicornate uterus. I RHEMAN Mary Nögyógy. 1935 4 57
- Perforation of the uterus with injury to the bowel. P I PROTOPOV Rev Obstet 1935 15 94
- Acute axial torsion of the uterus. C H HAWK Ann Surg 1935 102 37
- Inguinal herniation of the uterus. D PANPARI Clin chir 1935 11 449
- Hypertrophic elongation of the uterine cervix. BER NARDINO FOURNIE and PRADEL. Bull Soc d obst. et de gynéc. de Par 1935 24 358
- Experiences with the Strassmann plastic operation on the uterus. A W HOCHLOFF Zentralbl. f Gynaek 1935 11 804
- The treatment of irregular glandular hyperplasia with the blood from pregnant women. P N DAKOV Ugesk f Lager 1935 p 337
- Radiotherapy as the treatment of choice in gynecological hemorrhage. G DONATO Prog de la clin Madrid 1935 23 410
- Partial amputations or conical excision of the uterine cervix in chronic cervicitis. E A BOZKO Bol Soc de obst. y gynec de Buenos Aires 1935 14 834
- Tuberculosis of the cervix. J BEATFAYS Zentralbl f Gynaek 1935 p 706
- The possibility of internal hemorrhage in uterine tumors. G SCHAEFER Ztschr f Geburtsh u Gynaek 1935 110 345
- Adenomatous polyp and hypertrophic elongation of the uterine cervix. BRNET TZEZEV and CAHAC Bull Soc d obst. et de gynéc de Par 1935 24 338
- Decidual formation in a cervical polyp and its diagnostic value. H WILLER Zentralbl. f Gynaek 1935 p 979
- Fibromyoma of the cervix uteri. V S COUNSELLER and D C COLLINS. Am J Ob & Gynec 1935 39 108

- Two rare complications of fibroma. BARTHELEMY Bull Soc d obst. et de gynéc. de Par 1935 24 350
- Intrapertoneal hemorrhage in otherwise uncomplicated uterine myomias. H JONANSSON Acta obst. et gynéc. Scand. 1935 15 219
- Cardiac disturbances in patients with myoma and their treatment. A GUSO Zentralbl f Gynaek. 1935 p 800
- Results of radium therapy in benign conditions of the uterus. J A. COSCACOV Am. J Roentgenol 1935 33 810
- Cancer of the uterus following irradiation for metrorrhagia. R FOURNIER Rev franç de gynéc et d obst. 1935 30 445
- Cancer of the cervical stump following subtotal hysterectomy. S DISTEFANO Clin obstet 1935 37 513
- Cancer of the uterus in childhood. H A LOCKHART Am J Obst. & Gynec 1935 30 76
- Nine hundred cases of carcinoma of the female genitalia. A ZOLOKAR. Med Pregl 1935 10 65
- The treatment of carcinoma of the cervix with radium and the X rays. A RATTI Rassegna internaz di clin e terap 1935 16 499
- A case of cancer of the cervix treated by Wertheim's hysterectomy six year cure. H W JONASTOV Canadian M Ass J 1935 33 72
- The necessity of removing the adnexa with the cervix operating for carcinoma of the body of the uterus. E WALLBRUCH Zentralbl. f Gynaek 1935 p 865
- Sarcoma of the cervix uteri. C H ROEMER Am J Surg 1935 39 136
- Non polypoid sarcoma of the cervix uteri. V T GOLDSSTEIN Am J Obst. & Gynec 1935 30 143
- Simple vaginal hysterectomy. A J PARLOVSKY Semana méd 1935 42 1635

Adnexal and Peritubal Conditions

- A case of traumatic torsion of the normal adnexa. A CHARBONNIER and H BRANTY Bull et mém Soc nat de chir 1935 61 835
- Functional importance of the round ligaments in maintaining the position of the uterus. G MORRA Cinecologia Torino 1935 1 562

Tumors of the round ligament of the uterus G RUCSKA *Magy Nőgyógy*, 1935, 4 37

Electrical removal of the interstitial portion of the tube for sterilization F A SCHEFFZK *Zentralbl f Gynaek*, 1935, p 2786

The endocrine function of the ovaries E BUNSTER *Rev méd de Chile*, 1934, 62 509

The surgical treatment of ovarian dysfunctions M. R. ROBINSON *Am J Obst & Gynec*, 1935, 30 18 [444]

Reactivation of senile human ovaries A WESTMAN *Zentralbl f Gynaek*, 1935, p 676

Conservation of the ovary following hysterectomy E MÉRÉL and G RIGUNAU *Rev franç de gynéc et d'obst*, 1935, 30 433

Intrapertoneal hemorrhage due to rupture of the graafian follicle G COTTE and G PALLOT *Gynéc et obst*, 1935, 31 712

Ovarian cyst communicating with the uterine tube, hydrorrhea LÉDOUX-LEBAR, FUNCK-BRENTANO, WALTON, and DALSACE *Bull et mém Soc nat de chir*, 1935, 61 838

Rupture of ovarian cysts into the intestine D MAVRODIN *Gynec si obst*, 1935, 10 125

Ovarian metastases of epitheliomas of the digestive tract, Krukenberg tumors R CROUSSE and A DUPONT *Bruxelles-méd*, 1935, 15 902, 931 [444]

Krukenberg tumors J CHAVANNAZ *Rev de chir*, 1935, 54 453 [445]

A further contribution to the knowledge of granulosa-cell tumors E KLARTEN *Zentralbl f Gynaek*, 1935, p 614

Epithelioma of the ovary developing in an old dermoid cyst with encysted serous fluid E MÉRÉL and R DIEULAFÉ *Gynéc et obst*, 1935, 31 720

Researches in the histophysiology of ovarian grafts R BOURG *Bruxelles-méd*, 1935, 15 821

Therapeutics with ovarian hormones C KAUFMANN *J Obst & Gynec Brit Emp*, 1935, 42 409 [446]

External Genitalia

The effect of sex life on the biochemistry of the vagina J KISS *Magy Nőgyógy*, 1935, 4 42

The investigation and treatment of vaginal discharges H JACOBS *Med J Australia*, 1935, 2 101

The treatment of trichomonas vaginitis with concentrated salt solution L ROSENTHAL, L S SCHWARTZ, and J KALDOR *J Am M Ass*, 1935, 105 105

The treatment of leucorrhea and inflammatory reactions of the vaginal mucosa and the uterine cervix by local vaccination according to the method of Besredka R. DAUNAY, and T GAILLET *Bull Soc d'obst et de gynéc de Par*, 1935, 24 331

Cystic lymphangioma of the rectovaginal septum HAMANT and ROTHAN *Bull Soc d'obst et de gynéc de Par*, 1935, 24 339

Adenomyoma of the rectovaginal septum treated by radiological methods H H BOWING *Radiology*, 1935, 25 46

The formation of an artificial vagina R KLEITSMAN *Gynéc et obst*, 1935, 31 725

The hemorrhage of defloration BINET and TIGER *Bull Soc d'obst et de gynéc de Par*, 1935, 24 346

Severe hemorrhage due to rupture of the hymen A BINET and M TIEGER *Presse méd*, Par, 1935, 43 980

A new colposcope H O MARIAN *Am J Obst & Gynec*, 1935, 30 148

Pseudodiphtheritic vulvitis and secondary luetic vulvitis W DE SOUZA RUDGE *Rev de obst e gynec de Sao Paulo*, 1935, 1 23

A cylindroma of the vulva M FOSSEL *Zentralbl f Path*, 1935, 62 149

The comparative tendency of kraurosis and leukoplakia of the vulva to become malignant P J KEARNS *Canadian M Ass J*, 1935, 33 48

Miscellaneous

Eighteen practical gynecological questions F. PAPIE *J de méd de Bordeaux*, 1935, 112 499

The effect of the menstrual cycle on emotional life R HUBERT *Arch f Gynaek*, 1934, 158 275

Periodic variations in the menstrual cycle. G WOLDA *Nederl Tijdschr v. Geneesk*, 1935, p. 1381

Amenorrhea I A WIJSENBECK *Nederl Tijdschr v Geneesk*, 1935, p 1798

The physiology of the climacterium S GENELL *Nord med Tidsskr*, 1935, p 246

The interpretation of irregular genital bleeding during and after the menopause F E KEENE *Pennsylvania M J*, 1935, 38: 774

The hormones and the external genitalia O O FELLNER *Endokrinol*, 1935, 15 232

Functional variations between the anterior lobe of the hypophysis and the ovaries J A DUBOWIK *Arch f. d. ges Physiol*, 1935, 235 412.

Roentgenographic studies of the cranium of women with dysfunction of the genital organs M FAGIOLI *Ginecologia*, 1935, 1 625

An evaluation of the constitutional effects of large doses of estrogenic principle C MAZER, D R MERANZE, and S L ISRAEL *J Am M Ass*, 1935, 105 257

An experimental contribution on the synergism between estrin and pituitrin E MØLLER-CHRISTENSEN *Hosp-Tid*, 1935, p 216

A modification of the Castañó operation for pelvic varicosities A J RISOLÁ *Semana méd*, 1935, 42 1576

Primary thrombopenia syndromes and the obstetrical and gynecological form E BERUTTI *Ginecologia*, 1935, 1 579 [446]

The incidence of proctitis in gonorrhea of females P A CLEMENTS and K E A HUGHES *Lancet*, 1935, 220 18

The treatment of gonorrhea in the female R FRANZ *Wien klin Wchnschr*, 1935, 1 402

Routine treatment of gonorrhea in females B NOTES *Am J Obst & Gynec*, 1935, 30 121

Two cases of retroperitoneal pelvic cysts J R PINSAN *Bull et mém Soc nat de chir*, 1935, 61 881

The experimental production of excessive endometrial hyperplasia S ZUCKERMAN and A H. MORSE *Surg, Gynec & Obst*, 1935, 61 15

Endometriosis of the sigmoid R W BARTLETT *Am J Surg*, 1935, 29 122

Retroperitoneal intrapelvic ganglioneuroma and its operative removal E KEHRER *Arch f Gynaek*, 1935 158 582

A case of simultaneous primary carcinoma of the breast and uterine cervix Z RYCHLOWSKI *Ginek polska*, 1934, 13 789

The development of multiple venous thrombosis as an allergic reaction of the venous system in genital carcinoma M G SIERDJUKOFF and B A JEGOROFF *Monatsschr f Geburtsh u Gynaek*, 1935, 99 36

Complications of radium therapy in gynecological carcinoma A HAMANT and A GOEBEL *Zentralbl f Gynaek*, 1935, p 677

Dangers of gold stem pessaries M P WARNER *Med Rec*, New York, 1935, 142 69

The thermic effect of the short wave and of diathermy in the field of gynecology G VUARNIO *Ginecologia* 1935 1 553
Experiences with short wave therapy in gynecological inflammations H NIEDLHOFF *Muenchen med Wchn chr* 1935 1 382

Uteral obstruction following irradiation of the female pelvic organs F W LEXLEY *J Lancet* 1935 55 419
Resection of the presacral nerve by the method of Cotte J NOVAK *Zentralbl f Gynaek* 1935 p 371
The use of dilaudin in gynecological surgery T K BROWN and H L KLEINE *Am J Obst & Gynec* 1935 30 89

OBSTETRICS

Pregnancy and Its Complications

The Zondek Aschheim reaction in diagnosis D SMITH *Glasgow M J* 1935 124 11

The Aschheim Zondek test and roentgen irradiation L NUCKENBERGER *Zentralbl f Gynaek* 1935 p 1

The relationship between the Langhans cells and the Aschheim Zondek test R PROCT M PARAT and R PALMER *Bull Soc d obst et de gynec de Par* 1935 4 317

Ectopic pregnancy H FOSTER and W I SHEINFIELD *Am J Obst & Gynec* 1935 39 93

A five year survey of ectopic pregnancy C W MILLER *Am J Surg* 1935 29 47

Combined extra uterine and intra uterine pregnancy R J HIFFERMAN *New England J Med* 1935 213 120

Simultaneous intra uterine and extra uterine pregnancy A KATZ *Zentralbl f Gynaek* 1935 p 1024

Extra uterine pregnancy partially eliminated by the intestine E A FOX *Bol Soc de obst y gynec de Buenos Aires* 1935 14 12

Tubal gestation C H TYRONI S A ROMANO and C G COLLENS *Am J Obst & Gynec* 1935 30 112

Ovarian pregnancy N P COSTA and A FAISIA *Bol Soc de obst y gynec de Buenos Aires* 1935 14 126

A clinical and pathological study of placenta marginata I LUPESCU *Rev Obstet* 1935 15 81

One hundred cases of placenta previa centralis and marginalis M PAGLIANI *Ginecologia* 1935 1 537

A case of placental monster LOUVOR *Bull Soc d obst et de gynec de Par* 1935 24 337

The effect of maternal diet on Vitamin A reserve of the fetus E GUBERTI *Ginecologia* Torino 1935 1 59

Ophthalmologically important roentgen ray injuries to the fetus after irradiation during pregnancy F ENGELKREUTZ *Klin Monatsbl f Augenh* 1935 94 121

Intra uterine intracranial damage following illuminating gas poisoning of the mother F VETTER *Beitr z gerichtl Med* 1935 13 85

A case of fetal peritonitis associated with hydrocolpos C SUPERBI *Clin obstet* 1935 37 332

Intra uterine fracture of the leg FALLET and SZOR *Bull Soc d obst et de gynec de Par* 1935 24 347

A study of the fetal mortality in patients with organic heart disease H M FREEL *Am J Obst & Gynec* 1935 29 53

Variations of the total blood phosphorus in the physiological puerperal state G MORRA *Ginecologia* 1935 1 652

The blood cholesterol during pregnancy GILBERT BLIGNARD and COLOMBIER *Bull Soc d obst et de gynec de Par* 1935 24 366

Studies on glutathione in pregnancy and the puerperium CZEBOVY *Arch d obstet & gynec* 1935 42 326

The deaminizing power and the formation of urea in the liver during pregnancy L HEROLD *Mch f Gynaek* 1935 150 166

A roentgenological study of the topographic and functional changes of the intestine in pregnancy at term S ZOCCHI and L ROSSETTI *Ginecologia* 1935 1 677 [448]

Motor functional disturbances of the elvis and ureter in pregnancy and the puerperium studied by chromocystoscopy B SORRENTINO *Clin obstet* 1935 37 321

The management of the prenatal and the postnatal cervix M A CASTILLO and F L MONTGOMERY *Am J Obst & Gynec* 1935 30 37

Fatal spontaneous rupture of the cervix C GERVELL *Zentralbl f Gynaek* 1935 p 1111

Uterine rupture with pregnancy in the uterine angle L SANTANELLI *Rev med d Rosario* 1935 5 436

Hemorrhage in late pregnancy F H SMITH *Am J Obst & Gynec* 1935 30 61

Some extra uterine complications of pregnancy H H WARE JR *Virginia M Month* 1935 62 190

A case of chorea of pregnancy treated by intra spinal injection of eustralgin R BRIGOLI *Rev de obst & gynec de Sao Paulo* 1935 1 1

The edema of pregnancy LEVY SOLAL and GUTHRIE *Clin obstet* 1935 37 358

A case of nephropathy of pregnancy of predominantly hypertensive type F TALLAFERRA and R U FERNANDEZ *Bol Soc de obst y gynec de Buenos Aires* 1935 14 113

The liver in normal pregnancy and in the toxemia of pregnancy J B LINDA *Arch de med chir y especial* 1935 16 424

Cases of ptyeplentitis and mvelitis caused by pregnancy toxemia V VAYRYNEV *Acta obst et gynec Scand* 1935 15 152

Further quantitative determinations of prolan and estrin in pregnancy with a special reference to late toxemia and eclampsia G VAN S SMITH and O W SMITH *Surg Gynec & Obst* 1935 61 27

The follicular hormone content of the blood in eclamptic patients W BICKENBACH and H FARMER *Klin Wchn chr* 1935 1 406

Experimental results obtained in the study of the toxicity of serum from patients with eclampsia A V MOROSOVA and N M ALZEGOVA *Gynecologie* 1935 34 101

The etiology and pathogenesis of eclampsia with particular reference to the heart I MIVAST *Monatschr f Geburtsh u Gynaek* 1935 99 11

Uterus and eclampsia Experimental eclampsia R AVEFFER *Klin Wchnchr* 1935 1 1757

Convulsive eclampsia complicating retroplacental hematoma without uterine apoplexy B DOER *Bull Soc d obst et de gynec de Par* 1935 24 320

Veratrum viride in the treatment of eclampsia R D BRAY *Am J Obst & Gynec* 1935 30 46

Angiospasm and pregnancy A FRUENHOLZ *Pull Soc d obst et de gynec de Par* 1935 24 341

Tables ant pregnancy S SIFAKIS *Orvosi hetil* 1935 p 401

Diabetes and pregnancy CARIEL GILMAN and GRIMMOND *Bull Soc d obst et de gynec de Par* 1935 24 363

Some problems in pregnancy and diabetes. D. W. KRAUER. *Am J Obst & Gynec*, 1935, 30: 65.
 Gonorrhea and pregnancy. R. SIEGEL and W. HARRIS. *Monatschr f Geburtsh u Gynack*, 1935, 69: 41.
 Syphilis and pregnancy. A clinical study of 2,170 cases. J. R. McCORD. *J Am M Ass*, 1935, 105: 80. [449]
 Diagnostic difficulties in a case of pregnancy complicated by a softened fibroma. REED. *Gynecologie*, 1935, 34: 261. [419]

Incomplete abortion and miscarriage, an analysis of 521 cases. T. M. BOWMAN. *South M J*, 1935, 28: 645.

Abortion in the bicornute unicornate uterus simulating extra uterine pregnancy. L. PACCIONI. *Clin obstet*, 1935, 37: 339.

Abortion following surgical interventions during pregnancy. P. F. CASAS. *Rev méd d Rosario* 1935, 25: 426.

A case of criminal abortion. B. DIELOFFO, A. CARONIS, and L. YACOVICH. *Bol Soc. de ciruj de Rosario*, 1935, 2: 48.

A case of abdominal lesion in an attempt at abortion. G. BEFFONI. *Ginecologia*, Torino, 1935, 1: 570.

Therapeutic abortion and the law. G. GALLIATO. *Clin obstet*, 1935, 37: 354.

Acute post-abortion renal insufficiency, decapsulation and chloride administration. H. CHAMBERS, C. LONO O'NEILL, P. GARAY, and I. ILLI. *Rev méd de Chile*, 1934, 62: 603.

A case of post-abortion tetanus. BISSARDI. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 350.

Digital curettage following abortion. L. BOVET. *Bull et mem Soc. d'obst et de gynéc de Par*, 1935, 27: 207.

The autophagy of Strassmann and an anatomopathological discussion of its effect on the possibility of pregnancy. A. FORNELLO. *Ginecologia*, 1935, 1: 609.

Labor and Its Complications

The pelvis in primiparas. J. A. BLATT. *Semana med*, 1935, 42: 1689.

The count of uterine contractions in cases with premature rupture of the membranes, with particular reference to labor in old primiparas with a normal pelvis. H. GORCI. *Monatschr f Geburtsh u Gynack*, 1935, 69: 21.

Mercurochrome to secure vaginal antisepsis during labor. H. W. MAYES. *Am J Obst & Gynec*, 1935, 30: 80.

Idiopathic, painless, unconscious labor. J. PEETERS. *Nederl Tijdschr v Geneesk*, 1935, p. 1309.

The course of labor in difficult first labors. G. KLIPFF. 1934. Freiburg 1 Br, Dissertation.

Delivery in a woman with a persistent cloaca. SCALLI and SZOP. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 339.

Twenty-three cases of rupture of the uterus during labor. L. WATZEL. *Verhandl d Kong jugoslav chir Ges*, 1934, 4: 845.

The rôle of blood transfusion in the treatment of obstetrical hemorrhage. W. J. DIFCKMANN and E. F. DALEY. *Am J Obst & Gynec*, 1935, 30: 1.

Occiput posterior. J. G. CROTTY. *Am J Obst & Gynec*, 1935, 30: 97.

The Kjelland forceps judged on the basis of 200 applications, and a modification of the technique of their use. F. LORENZETTI. *Ginecologia*, 1935, 1: 523. [450]

The technique of the Kjelland forceps in high arrest of the head with flat and generally contracted pelvis. V. FORDRI. *Zentralbl f Gynack*, 1935, p. 629.

Symphysiotomy for contracted pelvis and edema of the cervix, cessation of the edema. SUZOP. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 328.

Indirect indications for cesarean section in the treatment of Grade I pelvic constriction. I. D'LECHIA. *Clin obstet*, 1935, 37: 347.

The technique of cesarean section. P. CALPERAS. *Gynecologie*, 1935, 34: 298.

Extrapertoneal cervicocæsarean section. ROJAS, BAZÁN, BERO, and TALAMIEPO. *Bol Soc de obst y gynec de Buenos Aires*, 1935, 14: 168.

Cæsarean section; factors influencing mortality. A. T. BOWERS. *Am J Obst & Gynec*, 1935, 30: 103.

A case of rupture of the uterus with hysterectomy following previous cesarean section. W. J. STEVENS. *Canadian M Ass*, J., 1935, 33: 71.

Concerning the influence of pitocin on the conditions during delivery of the placenta. O. SCHMIDT. *Acta obst et gynec Scand*, 1935, 15: 211.

Manual detachment of the placenta and intra-uterine palpation. B. KRISTENSEN. *Acta obst et gynec Scand*, 1935, 15: 165. [450]

Cervical tears. I. SZENTH. *Orvostudós*, 1935, 25: 261.

Puerperium and Its Complications

Postpartum care. W. D. LUTHERTON. *Ohio State M J*, 1935, 31: 509.

The tonus of the sympathetic system in the puerperium. M. L. PILLET and J. ROMANASSER. *Semina méd*, 1935, 12: 1553.

Late puerperal hemorrhage. T. KOMOROWSKI and G. OLANSKI. *Rev Obstet*, 1935, 15: 72.

Late infectious puerperal hemorrhage. J. CZAK. *Ginck polska*, 1934, 13: 741.

Delayed chloroform poisoning in obstetrical practice. G. I. GUARERO. *Guy's Hosp Rep*, Lond., 1935, 85: 142.

The treatment of puerperal infection. L. G. CAMPOS. *Rev mexicana de ciruj, gynec y cáncer*, 1935, 3: 339.

The treatment of puerperal sepsis. G. F. GIBBER. *Practitioner*, 1935, 134: 738. [450]

The therapy of the Cook County Hospital, therapy of puerperal sepsis. B. TANTUS and A. F. LASH. *J Am M Ass*, 1935, 105: 29.

Post-partum polymicrobial septicemia with pulmonary abscess. A. LEWIS, A. LAPORE, and P. ILMUSAN. *Bull et mem Soc méd d'hop de Par*, 1935, 51: 1010.

Genitoperitoneal tuberculosis in the puerperium. BERNARDINI, GARIBAY, GILHEM, and GRIMOND. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 360.

Alterations in the bactericidal power of the blood which occur during hemolytic streptococcal infections in the puerperium. R. HAFE. *J Path & Bacteriol*, 1935, 41: 61.

Puerperal streptococcal septicemia. H. F. S. LINDSAY. *Brit M J*, 1935, 2: 6.

Two interesting cases of puerperal gangrene. SALAMERO CASTILLÓN and USUA. *Arch de med, ciruj y especial*, 1935, 16: 271. [451]

Puerperal mastitis. K. HOLZAPFEL. *Zentralbl f Gynack*, 1935, p. 699.

Newborn

Epidemic pemphigus of the newly born. W. H. POOLI and C. H. WHITTLE. *Lancet*, 1935, 228: 1323. [451]

A case of cutaneous gangrene in a newborn infant. G. LÉVY. *Bull Soc d'obst et de gynéc de Par*, 1935, 24: 345.

Subcutaneous traumatic fat necrosis in the newborn. V. CATALANOTTI. *Rassegna internaz di clin e terap*, 1935, 16: 534.

A case of birth injury of the jaw. J. G. TURNER. *Proc Roy Soc Med*, Lond., 1935, 28: 1206.

Thymic death in infants. M. P. DE PENTINO. *Med Thera*, 1935, 19: 947.

Miscellaneous

Biometrical index of femininity *Casv Arch di ostet e ginec* 1935 47 335

The treatment of retroplacental hemorrhage with uterine apoplexy *V CASUALA Bull Soc d obst et de gynec de Par* 1935 24 312

Prophylaxis in obstetrics *V Illness Wien klin Wchnachr* 1935 2 266

Pseudogestation and sterility *J SNOY and P ISIDOR Gynecologie* 1935 34 281

A study of maternal deaths occurring in San Francisco hospitals *H A STEINENSON R K SWIN and E FOICER West J Surg Obst & Gynec*, 1935 43 328

The diagnostic and prognostic value of the Aschheim Zondek test in vesicular mole and chorionepithelioma *K KOFNER Zentralbl f Gynaek*, 1935 p 1049

A case of chorionepithelioma. *HOCH and BONFAY Bull Soc d obst et de gynec de Par* 1935 24 408

The pathogenesis of ectopic chorionepithelioma *H HANAU Ann d anat path* 1935 22 403

Extragenital teratogenous chorionepithelioma and chorionepitheliomatous tumors *A SYMOKOWSKI Zentralbl f Path* 1935 62 377

Chorionepithelioma with a long latent period *D PEYER Am J Obst & Gynec* 1935 27 840 [452]

Chorionepithelioma. Should serum from the female in the puerperium and pregnancy be given a therapeutic trial? *J C DICKSON U S Nav M Bull* 1935 31 358

A follow up survey of the cases of hydatidiform mole and chorionepithelioma treated at the London Hospital since 1912 *A BREWS Proc Roy Soc Med Lond* 1935 28 1213 [452]

GENITO-URINARY SURGERY

Adrenal Kidney and Ureter

The late effect of denervation of the adrenal gland on the secretion of epinephrin *J A SUGANZO Rev Soc argent de biol* 1935 11 130 [453]

The syndrome of the suprarenal cortex *F J KAPLER and J T PASTERNAK 50 Tag d deutsch Ges f Chir Berlin* 1935

Subtotal bilateral adrenalectomy for the relief of essential hypertension *J L DECOURCEY J Med Cincinnati* 1935 16 244

A case of myelolipoma (bone marrow heterotopia) of the suprarenal gland *S DE NAVASQUEZ Guy's Hosp Rep, Lond* 1935 85 237

Cortical carcinoma of the suprarenal with Cushing's basophilic pituitary syndrome *D C HAKE J M RO and A C CROOK, Lancet* 1935 229 149

Complications of adrenalectomy *A ARANTIKOVA, Nov Khir Arkh* 1935 33 512

The effect of glucose on the respiratory exchange in suprarenalctomized dogs *A MORALES ELIZALDE Rev Soc argent de biol* 1935 11 125

The differential diagnosis of stones in the upper urinary tract *F H FRYER J Oklahoma State M Ass* 1935 28 152

Recurrent urolithiasis. Etiological factors and clinical management *L D KEISER J Am M Ass* 1935 104 1209 [453]

Intravenous pyelography with sergonin *A P FALM 214 Sov Khir* 1935 2 34

Renal and ureteral anomalies *P P MAYOCK Penn sylvania M J* 1935 38 706

Renal ectopia *W G SEXTOY J Urol* 1935 33 51

Clinical and diagnostic features of pelvic dystopia of the single kidney *M T SWIFT and Z G SPYKOROVA, Sov Khir* 1935 2 435

Four cases of bilateral renal dystopia *E T GIMPELSON and L N FATYANOVA, Sov Khir* 1935 4

Horseshoe kidney and the general surgeon *R L WALSH Northwest Med* 1935 34 251

The sequelae of blunt injuries to the kidney *H DOM 50 Tag d deutsch Ges f Chir Berlin* 1935

Operative and cautions in mobile kidney *E PARIN and B FEY Bull et mém Soc nat de chir* 1935 61 741

Operative indications in renal ptosis *G WOLFSON Bull et mém Soc nat d chir* 1935 61 699

Operative indications in renal ptosis *L MICHON Bull et mém Soc nat de chir* 1935 61 708

Operative indications in renal ptosis *C LEPOTRE Bull et mém Soc nat de chir* 1935 61 70

Operative indications in renal ptosis *R GOUDREAU Bull et mém Soc nat de chir* 1935 61 849

Torsion of the kidney *G TEFERTEK Nov Khir Arkh* 1935 33 89

Discussion on the radiological diagnosis of renal lesions exclusive of stone *Proc Roy Soc Med Lond* 1935 28 1195

Small and large hydronephroses *Q VICHITA Rasmegia internaz di clin e terap* 1935 16 573

Hydronephrosis report of a case *E S MERRILL, ew England J Med* 1935 213 40

Hydronephrosis with hematuria *S T ZAKHARIAN, Sov Khir* 1935, 35

Hydronephrosis postoperative rupture *R P BEATTY Pennsylvania M J* 1935 38 806

The hydronephrotic bases of renal atrophy *J JAKY Ztschr f urol Chir* 1935 40 39 [453]

A case of resection of the lower pole of the kidney for hydronephrosis in a five-year-old child with congenital double kidney *D A VEDENSKY, Sov Khir* 1935 2 130

Hematonephrosis of traumatic origin with the syndrome of internal hemorrhage emergency nephrectomy recovery *R FAYOT Bull et mém Soc d chirurgiens de Par* 1935 27 283

Pyelitis its significance and treatment *A ELDB, Lancet* 1935 129 127

Remarks on pyelitis and its medical treatment *A R SOOTAWOOD Med J Australia* 1935 2 33

The treatment of pyelonephritis with silver salts *R CHRISTEN Rev méd de la Suisse Rom* 1935 2 46

Kidney tuberculosis in children *L T KRESIN, Sov Khir* 1935 2 61

Contribution to the study of enterorenal fistulas. Cases of tuberculosis of the kidney and the left renal pelvis with the formation of a fistula into the colon and to the exterior *A ROMANI Arch ital di urol* 1935 12 581 [454]

The role of trauma in the etiology of nephrolithiasis *L M SHVABER, Sov Khir* 1935 2 24

The formation of renal calculi following transverse lesions of the cord *P P LASHMARAS, Medica Madrid* 1935 6 477

Diffuse peritonitis due to perforation of a calculus pyonephrosis *R GOUDREAU Bull et mém Soc nat de chir* 1935 61 760

Polycystic kidney O MATER Ztschr f urol Chir, 1935, 41 90

An echinococcus cyst of the kidney in a patient operated upon for pulmonary echinococcus M SORRENTINO Riforma med, 1935, 51 716

Dermoid cysts of the kidney. A P TURIKHIN Sovet Khir, 1935, 2 136

Confusing clinical manifestations of malignant renal neoplasms C D CREEVE Arch Int Med, 1935, 55 805

Experiences with denervation of the kidney for malignant sclerosis H MELTZER 59 Tag d deutsch Ges f Chir, Berlin, 1935

A case of renal sarcoma in a six-month embryo A T SVIRIDOV Sovet Khir, 1935, 2 129

Plastic operations on the renal pelvis H BOEMINGHAUS 59 Tag d deutsch Ges f Chir, Berlin, 1935

Transpleural nephropexy W J MOORE Surg, Gynec & Obst, 1935, 61 58

The treatment of the ureter remaining after nephrectomy G MARCUCCI Clin chir, 1935, 11 422 [454]

Calculus of the ureter M FRANCI Clin chir, 1935, 11 434

The management of ureteral stone, operation versus expectancy and manipulation F E B FOLEY J Am M Ass, 1935, 104 1314 [455]

Ureteral transplant W L SHERMAN, C J DINARDO, and J M BOWERS Am J Surg, 1935, 29 54

Ureteral transplantation by the method of Mirotvortzev S SHILOVITZ Nov Khir Arkh, 1935, 33 60

The value of the third method of Coffey for ureteral transplantation into the bowel P D SSOLOWORF Ztschr f urol Chir, 1935, 41 79

Attempts to improve the postoperative results following transplantation of the ureter into the bowel C REIMERS Ztschr f urol Chir, 1935, 41 6

Bladder, Urethra, and Penis

The simplification of cystoscopic technique L KREISEL-BURD Nov Khir Arkh, 1935, 33 295

Bladder dysfunction in cases of brain tumor A cystometric study J W WATTS and C A W UHLE J Urol, 1935, 34 10 [455]

Vesical retention of reflex origin CORBINEAU J d'urol méd et chir, 1935, 39 442

Transurethral resection of the internal sphincter in a certain type of cord bladder E L PETERSON, JR New England J Med, 1935, 213 50

Diverticulum of the urinary bladder in women A A KUTZMANN Am J Surg, 1935, 29 102

Complications of bladder diverticulum PUHL Zentralbl f Chir, 1935, p 1128

Surgery of diverticula of the bladder G NORA Bull et mém Soc d chirurgiens de Par, 1935, 27 291

Sphincter sclerosis in the female H FRIEDRICH 59 Tag d deutsch Ges f Chir, Berlin, 1935

Slight exstrophy of the bladder in women J GAUTIER Bull et mém Soc nat de chir, 1935, 61 708

Radiographic evidence, an indispensable aid in the diagnosis of intraperitoneal rupture of the bladder E BUTLER, J R SULLIVAN, and W D BERNBAUM West J Surg, Obst & Gynec, 1935, 43 410

Instillation of desitin in the treatment of inflammatory diseases of the urinary bladder H VIETHEN Chirurg, 1935, 7 263

Vesical stones in women A SCHMIDT Magy Nogyógy, 1935, 4 69

The treatment of elusive ulcer of the bladder by the application of pure phenol N P SEARS Am J Obst & Gynec, 1935, 30 85

False tumors of the urinary bladder of tuberculous origin A LAVENANT Bull et mém Soc d chirurgiens de Par, 1935, 27 278

The treatment of bladder tumors with the McCarthy resectoscope T E GIBSON J Urol, 1935, 34 8

Diathermy for carcinoma of the bladder V S COUNSELLER and W F BRAASCH Ann Surg, 1935, 101 1418 [456]

Papillary carcinoma confined to a diverticulum of the bladder, its removal and final report. O OWRE J-Lancet, 1935, 55 469

Economic cystostomy with or without filling of the bladder R. BONNEAU Bull et mém Soc d chirurgiens de Par, 1935, 27 276

Plastic formation of the urinary bladder with the cecum and of the urethra with the appendix D GORODINSKY Nov Khir Arkh, 1935, 33 290

A shock-proof fulgurating urethroscope S F WILHELM Am J Surg, 1935, 29 152

Urethral injuries following fracture of the pelvis in miners and workers in metallurgy T RABINOVITCH Nov Khir Arkh, 1935, 33 266

Severe hemorrhage following dilatation of the urethra G NORA Bull et mém Soc d chirurgiens de Par, 1935, 27 283

Stricture of the external urinary meatus A R. THOMPSON Lancet, 1935, 228 1373

Ruptured pyo-urachus complicated by urethral stricture J A LAZARUS and A A ROSENTHAL Ann Surg, 1935, 102 49

Some observations on urethritis L W HULL J Michigan State M Soc, 1935, 34 432

Acute exacerbation of latent gonorrheal urethritis after fifty years following prostatectomy. C K FRASER and W J P DYE J Am M. Ass, 1935, 105 269

Traumatic complications of a urethral polyp H BLANC J d'urol méd et chir, 1935, 39 440

Melanoma of the urethra A H ROSENTHAL Am J Obst & Gynec, 1935, 30 115

Replacement of an absent urethra in a case of scrotal hypospadias with pedicled flap from the wall of the bladder O ZELLER Med Welt, 1935, p 565

Circumcision in children T A WARD Practitioner 1935, 135 88

Bloodless circumcision of the newborn H S YELLEN Am J Obst & Gynec, 1935, 30 146

A new operation for epispadias G BRANDT 59 Tag d deutsch Ges f Chir, Berlin, 1935

A case of reformation of the urethra in a case of hypospadias by temporary implantation of the penis in the scrotum J LEVEUF Bull et mém Soc nat de chir, 1935, 61 861

Urethral obstructions in children W W S BUTLER, JR Virginia M Month, 1935, 62 188

Preputial calculus, a clinical rarity, report of a case N R INGRAHAM, JR J Am M. Ass, 1935, 105 106

Genital Organs

New orientations in the treatment of hypertrophy of the prostate F. PUTZU Rassegna internaz di clin e terap, 1935, 16 560 [456]

Discussion of the pathogenesis and treatment of prostatic hypertrophy R M FRONSTEIN Sovet Khir 1935, 2 3

The late results of roentgenotherapy in prostatic hypertrophy N S HALPERIN and E D DUBOVY Sovet Khir, 1935, 2 20

The surgical treatment of prostatic hypertrophy G T ALAPIN Sovet Khir, 1935, 2 10

Preliminary shrinkage of the prostate in transurethral resection together with a histological study of the action of the coagulating and cutting currents. C K SMITH and A L STOCKWELL. *J Urol* 1935 34 31

Transurethral treatment of prostatic hypertrophy. H MORSE. *59 Tag d deutsch Ges f Chir Berlin* 1935 [457]

The transurethral treatment of prostatic hypertrophy. L T DUNAJSKY. *Soviet Khir* 1935 2 13

The recurrence of benign obstructing prostates years after prostatectomy. R CHUTE. *New England J Med* 1935 213 55

The treatment of chronic prostaticitis by injection. O GRANT. *J Urol* 1935 33 631 [457]

Hemorrhagic cystitis and tuberculosis of the prostate. O D PHILLIP. *New England J Med* 1935 213 41

True prostatic calculi. H W MCKAY and G A HAWES. *South M J* 1935 28 583

Prostatic calculi: a case report. R HELL. *J Med A S Georgia* 1935 4 45

Urethrogramy in adenoma of the prostate. U ISVAKOV. *Semina med*, 1935 42 1661

The postoperative period after prostatectomy. T GELZER. *Soviet Khir* 1935 2 74

Physiological responses of transplanted prostatic tissue in the anterior chamber of the eyes of rabbits. N J HICKEL and H L KRETSCHMER. *Surg Gynec & Obst*, 1935 61 2

Torsion of the spermatic cord in infancy. G F LANGLEY. *Lancet* 1935 220 181

Vaso-orchidostomy with interposed spermatocele: a procedure for the treatment of sterility. S F WILHELM. *Arch Surg* 1935 30 967

Myosarcoma of the spermatic cord. A N COLLINS and C L BERNER. *J Urol* 1935 34 85

Spontaneous rupture of epididymitis and two unusual accidents of the testicle: report of cases. F S POMEROV. *J Urol* 1935 34 43

Torsion of an intra abdominal testicle. A J BELLER. *Ann Surg* 1935 102 41

The effect of anterior pituitary like principle from the urine of pregnancy on undescended testes in man. B WEBSTER. *J Am M Ass* 1935 104 2157

Hydrocele: its treatment by the injection method. G H FOWELL, J C SARGENT and C R MARQUARDT. *Wisconsin M J* 1935 34 451

Abscess of the testicle. W ROSENBERG. *J Urol* 1935 34 44 [457]

Cysts of the testicle. A H JENKINS and C I DEWITT. *New England J Med* 1935 213 5

The clinical value of Prolan A determinations in testis tumors. M CUTLER and S E OWEN. *Am J Cancer* 1935 24 318 [458]

The gonadotropic hormone in the urine of men with tumor of the testis. F HIRMAN and T O POWELL. *J Urol* 1935 34 55 [438]

The prognosis and treatment of tumors of the testis. F HIRMAN. *J Urol* 1935 34 72 [458]

Androgenoid pseudotestis. J F THRENTLES and A GALLIBERTI and R R REZZO. *Rev med chirurg de patol femina* 1935 3 500

Hermaphroditismus tubularis bilateralis masculinus. C FRANK. *59 Tag d deutsch Ges f Chir Berlin* 1935

The biological activity of derivatives of the male hormone androstosterone. R K CALLOW, D P DEANLEY and R DEANESLY. *Lancet* 1935 2 9 7

Miscellaneous

The use of aortography as a method of differential diagnosis in urology. M BRISPHOS. *Bull de l'As Med Langue Fran de l'Amérique du Nord* 1935 1 3 8

Congenital anomalies of the urinary tract. W I GEMMILL. *Am J Surg*, 1935 20 58

Trauma of the urinary tract. H MCCLOUG. *J Missouri State M Ass* 1935 12 279

Irradiation lymphitis. L A GERRER. *New England J Med* 1935 212 1200

Tuberculous bacilli in the urine. G I SERAFIMOV. *Soviet Khir* 1935 2 50

Retrolachrymal cyst in a man. C LACAPRA. *Semina med* 1935 42 1720

Gonorrhea in the male: its etiology and diagnosis in acute and chronic stages. J M MOHAR. *Calc M J* 1935 30 16

Bacteriophage in the treatment of urinary infections. H L WERNERFELD and L NERO. *Am J Surg* 1935 29 45

The etiology of urinary calculi. J H P WISEMAN. *White Brit J Urol* 1935 103

Ocular signs of venereal lymphogranulomatous. C ESPILLOPA and W E COURTES. *Rev med de Chile* 1934 62 633

Degeneration of the tonsils in lymphogranulomatous. L B UPADONDO and G SEGURA. *Rev Assoc med argent* 1935 49 203

Dysontogenetic and mixed tumors of the urogenital region with a report of a new case of sarcoma botryoides vaginae in a child and comments upon the probable nature of sarcoma. J McFARLAND. *Surg Gynec & Obst* 1935 61 42

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons Etc

Some bone and joint conditions in children. M WELLS. *Lancet* M J 1935 124 1

Congenital fragilitas osseum of dysplasia, periosteal type or osteogenesis imperfecta. R CLÉMENT, M BARNAUD and S LYON. *Bull et mém Soc med d hop de Par* 1935 61 1104

Congenital fragilitas osseum of the Lobstein type or osteopathia. R CLÉMENT. *Bull et mém Soc med d hop de Par* 1935 61 1117

A contribution to the clinical diagnosis of osteogenesis. W W LILJEN and A NISSEN and K RANBY. *Am J Roentgenol* 1935 34 41

Osteomyelitis in infants. R B DILLIBENT. *Surg Gynec & Obst* 1935 61 66

Osteochondritis. H A SWART. *West Virg M J* 1935 31 104

Epiphyseal pseudotuberculosis - a osteochondritis juvenilis. R SIFFMAN. *Rev med de la Suisse Rom* 1935 p 321

Bone changes simulating tuberculous or tumor. J F BRALSTERN. *Lancet* 1935 218 148

The association of intrathoracic lesions with bone and joint tuberculosis. A study of 100 cases. C M MESSER and H I CHAIN. *J Bone & Joint Surg* 1935 17 52 [459]

The occurrence of actinomycosis of bone nine years after a wing injury. The report. R ANDRESEN. *Zentralbl f Chir* 1935 p 1011

- How soon after the first injection of parathormone, glucose, or lead salts do the first signs of osteitis fibrosa appear? E. RUTISHAUSER, R. BROCCARD, and M. BIANCHI. *Presse méd., Par.*, 1935, 43: 789 [459]
- Osteitis fibrosa generalisata. A. BJURE. *Schwed. Verh. f. inn. Med.*, 1933, p. 298
- The magnesium content of the blood in von Recklinghausen's disease of the bone. J. MARX. *Orvosi hetil.*, 1935, p. 351
- Parathyroidectomy and Recklinghausen's disease. C. BERNABEO. *Chin. chir.*, 1935, 11: 309 [459]
- Bone tumors. C. F. GESCHICKTER. *Am. J. Roentgenol.*, 1935, 34: 1
- Primary tumors of bones. W. P. SIGHTS. *Kentucky M. J.*, 1935, 33: 304
- Concurrent osteogenic sarcoma in brother and sisters. C. W. ROBERTS and C. P. ROBERTS. *J. Am. M. Ass.*, 1935, 105: 181
- Chondro-osteodystrophy. F. C. GOLDING. *Brit. J. Radiol.*, 1935, 8: 457
- Post-typhoid chondritis with abscess formation. R. C. BROCA. *Brit. J. Surg.*, 1935, 23: 231
- Transformation of an osteogenic condition into a chondrosarcoma. R. DIDIER. *Presse méd., Par.*, 1935, 43: 915
- Chondrosarcoma. The relation of structure and location to the clinical course. O. T. ROBERG, JR. *Surg., Gynec. & Obst.*, 1935, 61: 68
- Articular changes in hemophilia. C. E. P. BUUS. *Acta radiol.*, 1935, 16: 503
- Hemarthrosis in blood dyscrasias. P. PURRIEL and S. MARICURENA. *Arch. uruguayos de med., cirug. y especial.*, 1935, 6: 582
- The Schilling count in fifty-nine cases of chronic arthritis with a correlated sedimentation rate in thirty cases. C. LER. *STEINBERG. Am. J. M. Sc.*, 1935, 190: 98
- A histological and biochemical study of chronic deforming arthritis in children. A. CRÉPIN. *J. de méd. de Bordeaux*, 1935, 112: 398
- The treatment of deforming arthritis with acetylcholine. J. M. MUÑOZ ARBAT and P. PIULACHS. *Rev. méd. de Barcelona*, 1935, 12: 388
- The management of atrophic arthritis. W. P. HOLBROOK and D. F. HILL. *South M. J.*, 1935, 28: 625
- Injuries to muscles and tendons. K. O. HALDEMANN and R. SOTO-HALL. *J. Am. M. Ass.*, 1935, 104: 2319
- The treatment of new and old contractures. N. SHMAROVITCH. *Nov. Khir.*, 1935, 33: 242
- Benign angiomatous tumor of the skeletal muscles. G. ZIPPALA. *Policlin.*, Rome, 1935, 42: sez. chir. 367
- Calcification in the supraspinatus tendon. E. N. WARDLE. *J. Bone & Joint Surg.*, 1935, 17: 789
- A case of tuberculosis of the humeral diaphysis and the cranial vault. L. D. VAN ANTWERP. *Am. J. Roentgenol.*, 1935, 34: 50
- A contribution to the study of Volkmann's ischemic contracture. J. D'HARCOURT and M. D'HARCOURT. *Medicina, Madrid*, 1935, 6: 237 [459]
- Ischemic paralysis from pressure of hematoma. G. M. MORRISON and H. E. KENNARD. *J. Bone & Joint Surg.*, 1935, 17: 656
- Inflammation of the styloid process of the ulna. G. MOSKOFF. *Ber. bulg. chir. Ges.*, 1934, 1: 16
- Injuries of the carpal bones. A. GOLONDZ. *Nov. Khir.*, 1935, 33: 345
- Tuberculous phalanges in elderly patients. B. STENSTROM. *Acta radiol.*, 1935, 16: 471
- A bandage for the treatment of rupture of the extensor tendon at the base of the distal phalanx. F. ORBACH. *Zentralbl. f. Chir.*, 1935, p. 874
- A case of congenital absence of the pectoralis major muscle. P. P. KONDRAT'EV. *Sovet. Khir.*, 1935, 2: 127
- A radiological study of the development of the spine and pathological changes of the intervertebral disk. P. H. MALCOLMSON. *Radiology*, 1935, 25: 98
- Problems in the pathology of the vertebrae. H. F. HARBITZ. *Norsk Mag. f. Lægevidensk.*, 1935, 96: 282
- Congenital vertebral synostosis. R. ARGUELLES. *Rev. de cirug. de Barcelona*, 1935, 5: 465
- Scoliotic paraplegia, a case with autopsy report. J. C. MONTAÑO and T. GONZÁLEZ. *Semana méd.*, 1935, 42: 1613
- A statistical study of our material on tuberculous spondylitis. STALMANN. *Ztschr. f. orthop. Chir.*, 1935, 62: 288
- The late results of surgical and conservative treatment of tuberculous spondylitis in children. L. P. MAR'JANCHIK. *Sovet. Khir.*, 1935, 2: 79
- Destructive spine lesions, diagnosis by needle biopsy. R. C. ROBERTSON and R. P. BALL. *J. Bone & Joint Surg.*, 1935, 17: 749
- Changes in the intervertebral disks in spondylolisthesis. H. MEYER-BURGDORFF. *Ztschr. f. orthop. Chir.*, 1935, 62: 120
- Spondylolisthesis without separate neural arch (pseudospondylolisthesis of Jungmanns). T. D. STEWART. *J. Bone & Joint Surg.*, 1935, 17: 640
- The present status of the problem of spondylolisthesis. F. P. DUEÑO. *Arch. de med., cirug. y especial.*, 1935, 16: 337
- Microscopic studies on progressive muscle atrophies, with special regard to the findings in the spinal cord and muscles. S. WOHLFAHRT and G. WOHLFAHRT. *Acta med. Scand.*, 1935, Supp. 63
- Rheumatic diseases of the vertebrae. GROSSEKETTLER. *Vertrauensarzt u. Krk.-kasse*, 1935, 3: 73
- The adolescent sacro-iliac joint syndrome. M. H. ROGERS and E. N. CLEAVES. *J. Bone & Joint Surg.*, 1935, 17: 759
- Intrapelvic protrusion of the acetabulum (Otto pelvis). W. N. LEVIN. *J. Am. M. Ass.*, 1935, 105: 112
- Adolescent coxa vara and internal secretions. GARDEMIN. *Ztschr. f. orthop. Chir.*, 1935, 62: 114
- Osteo-arthritis of the hip joint. T. P. McMURRAY. *Brit. J. Surg.*, 1935, 22: 716 [460]
- A chair for bilateral ankylosis of the hip joint. J. G. KUHN. *J. Bone & Joint Surg.*, 1935, 17: 796
- Functional roentgenography of the lower extremity stump in the prosthesis. K. T. BARYSHNIKOV and G. B. FOVIN. *Sovet. Khir.*, 1935, 3: 123
- An apparatus for the treatment of genu recurvatum. WILHELM. *Ztschr. f. orthop. Chir.*, 1935, 62: 389
- A new sign of knee-joint injury. DITTRICH. *Ztschr. f. orthop. Chir.*, 1935, 62: 144
- The traumatic knee. H. V. SPAULDING. *Ann. Surg.*, 1935, 102: 115 [461]
- Internal derangements of the knee. W. DARRACH. *Ann. Surg.*, 1935, 102: 129 [461]
- Traumatic chondromalacia of the patella, a report of two cases. F. A. SLOWICK. *New England J. Med.*, 1935, 213: 160
- Cysts of the fibrocartilages of the knee joint. H. TAYLOR. *J. Bone & Joint Surg.*, 1935, 17: 588
- Polyarticular chondromatosis of the knee. G. HABERLER. *Ztschr. f. orthop. Chir.*, 1935, 63: 22
- A case of primary echinococcus infestation of the adductor muscles of the leg. G. MANDILLON and A. GOUMAIN. *Bordeaux chir.*, 1935, p. 225
- Ischemic paralysis of the leg simulating Volkmann's contracture. S. G. JONES and F. J. COTTON. *J. Bone & Joint Surg.*, 1935, 17: 659

A physiological splint for the leg. **LOFFLER** Ztschr f orthop Chir 1935 62 394
Report of a case of partial congenital absence of the fibula. **R. DIEULAUF** and **M. CAROTAC** Bordeaux chir 1935 p 196

Bandage for fixation of dislocated peroneal tendon. **BRAGARD** Ztschr f orthop Chir 1935 62 388
Malpighian epithelioma on an old osteomyelitic focus of the tibia—so-called adamantinoma of Fischer? **A. CASINI** Policlin Rome 1935 41 sez chir 338 [462]
Congenital flat foot. **H. KUKENBERG** Ztschr f orthop Chir 1935 62 335

Congenital pes equinovarus. **J. P. LOBIT** Ciru. ortop y traumatol. 1935 3 39
A splint for club-foot. **WILHELM** Ztschr f orthop Chir 1935 62 256
A splint for the treatment and after-care of club-foot. **FABER** Ztschr f orthop Chir 1935 62 258
A bandage for the treatment of flaccid paralysis of the foot. **BRAGARD** Ztschr f orthop Chir 1935 62 347

Surgery of the Bones Joints Muscles Tendons Etc

The correction of rachitic deformities by preliminary decalcification. **H. FINKELSTEIN** J Bone & Joint Surg 1935 17 780
The treatment of two complications of acute osteomyelitis. **Glasgow M J** 1935 124 73
The radical operative treatment of bone and joint tuberculosis. **J. ERLACHER** J Bone & Joint Surg 1935 17 536

Treatment of giant-cell tumors of the long bones by surgery. **B. by irradiation** C F GESCHICKTER J Bone & Joint Surg 1935 17 550
Boring of the epiphysis and intra-osseous endoscopy. **R. MASSART** Bull et mém Soc d chirurgiens de Par 1935 27 264
Bone suture with pin and wire. **O. WENZEL** 59 Tag d deutsch Ges f Chir Berlin 1935

The treatment of acute purulent arthritis by joint wash and clo ure. **H. T. JONES** J Bone & Joint Surg 1935 17 559
The use of colloidal sulphur in the treatment of arthritis. **T. WHEELDON** J Bone & Joint Surg 1935 17 693
Gold treatment of rheumatoid arthritis. **S. J. HARTFALL** and **H. G. GARLAND** Lancet 1935 236 8
The treatment of chronic rheumatic polyarthritis and spondylarthritis by parathyroidectomy. **B. SCHREIBER** J Bone & Joint Surg 1935 17 571

Axiillary approach to the shoulder joint. **A. LAEWEN** 59 Tag d deutsch Ges f Chir Berlin 1935
One-stage resection of the clavicle by high posterior thoracotomy. **FIOLE** CARCASSONE FIGARELLA and **LÉNA** Bull et mém Soc nat de chir 1935 61 825
One-stage resection of the clavicle by high posterior thoracotomy. **G. LAEWEN** A. MAUER and **P. D. FOTER** Bull et mém Soc nat de chir 1935 61 869
Tendon transplantation in the upper extremities in poliomyelitis. **F. K. OBER** Cirug ortop y traumatol 1935 3 7
A simple operative method for the correction of habitual dislocation of the humerus. **M. SHAPIRO** Nov Khir Arkh 1935 33 237
Dupuytren's disease. **N. G. W. DAVIDSON** Brit 1935 54 351
Supernumerary carpal bone. **MAGNUS** Zentralbl f Chir J Surg 1935 23 237
Surgery of the wrist joint. **MAGNUS** Zentralbl f Chir 1935 p 800

The treatment of infection of the joints of the fingers. **C. S. BEVINS** Bol Soc de cirug de Rosario 1935 1
The treatment of congenital scoliosis due to a hemi vertebra. **L. MAYER** J Bone & Joint Surg 1935 17 671

Physiotherapy of poliomyelitis in the epidemic of 1932. **J. GOSSELIN** Bull de l'Ass Méd Langue Franç de l'Amérique du Nord 1935 1 283
The correction of hip-flexion deformity in anterior poliomyelitis: a result study. **C. DEN HOUTER** J Bone & Joint Surg 1935 17 690
Two cases of extra articular sacro-lumbar arthrodesis. **R. CHERRY** Bull et mém Soc d chirurgiens de Par 1935 27 255

Arthroplasty of the hip and the preservation of its stability. **F. H. ALLEE** Ann Surg 1935 102 108
Curved osteotomy of the innominate bone as treatment for ankylosis of the hip in poor position. **A. D. RABINOVICH** Presse méd Par 1935 43 822
A particular indication for the osteoplastic resection of the hip. **J. M. VILLARDELL** Rev de cirug de Bar celona 1935 5 477

The treatment of congenital and acquired malformations of the lower extremities and the relationship of flat foot to sacro-lumbar and lumbar pain. **R. DEKOUR** Bull de l'Ass Méd Langue Franç de l'Amérique du Nord 1935 1 333
The treatment of inequality of length of the lower extremities. **U. CAMERA** Bull de l'Ass Méd Langue Franç de l'Amérique du Nord 1935 1 328
An operative technique for shortening the lower extremity. **E. PAVIS** Bordeaux chir 1935 p 1,6
Metaplasia of the femur operation by the method of Vreden and its results. **M. KHOROV** Nov Khir Arkh 1935 33 232

Femoral shortening for equalization of leg length. **J. W. WHITE** J Bone & Joint Surg 1935 17 597
The treatment of sprains of the knee. **J. Zentralbl f Chir** 1935 p 793
Operative ventilation in tuberculous of the knee. **SCHLAFF** 59 Tag d deutsch Ges f Chir Berlin 1935
Knee flexion deformity following poliomyelitis its correction by operative procedures. **K. E. HUGHES** J Bone & Joint Surg 1935 17 627
Local anesthesia in knee arthrotomies. **C. ROWBOLD** J Bone & Joint Surg 1935 17 794
Ankle joint stabilization with motion. **P. M. GIBARD** J Bone & Joint Surg 1935 17 802
The correction of club-foot. **GEUER** Ztschr f orthop Chir 1935 62 261

The treatment of congenital equinovarus (club foot). **M. FORRESTER** BROWN J Bone & Joint Surg 1935 17 661
The treatment of congenital club foot. **M. LAVOE** Ztschr f Ann ital di chir 1934 14 113
Open treatment of club foot. **orthop Chir** 1935 62 222
A technical contribution on the treatment of club-foot. **RABL** Ztschr f orthop Chir 1935 62 207
The biological problem of the treatment of club-foot. **KREUZ** Ztschr f orthop Chir 1935 61 207
Radical operation for hallux valgus. **I. BLOVI** Chirurg 1935 7 137

Fractures and Dislocations

Dislocations. **W. E. GALLIE** New England J Med 1935 213 91
Fractures due to gunshot wounds. **F. G. DIAZ** A. BLANCO and **D. COSTA** Rev de cirug de Barcelon 1935 3 349

- Shipping, patella or recurrent dislocation of the patella
F R OBER J Bone & Joint Surg 1935 17 774
- Early protected weight bearing in the treatment of fractures of the foot ankle and leg F B GORD Canadian M Ass J 1935 33 41
- Avulsion of the posterior tuberosity of the os calcis due to pull of the tendon of Achilles E FERMAUD Rev méd de la Suisse Rom 1935, p 479
- A new method of treating fractures of the os calcis with a proposal for the treatment of fractures of the talus H WESTHUES Zentralbl f Chir 1935, p 995
- The ligaments of the foot and the mechanism of metacarpal fractures G BRUNO Chirurg 1935, 7 209

Orthopedics in General

- The injured child D GOLDBLATT and F JEWETT Am J Surg 1935 29 11
- Reconditioning the polio derelict W TROSBLOW Am J Surg 1935 23 4
- A spinal pelvic compression brace B KOVEN and M T KOVEN J Bone & Joint Surg 1935 17 800
- Measurements of the circumference diameter and volume of the extremities K ERB 59 Tag d deutsch Ges f Chir, Berlin, 1935
- Criticism of the ordinary shoe D D ASHLEY Med Rec, New York 1935 122 67

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

- The treatment of varicose veins Is systemic disease a contra indication? F A EDWARDS J Am M Ass 1935 103 2077
- The injection treatment of varicose veins G H COLT I S W RAMSAY and M M M MORRISON Brit M J 1935 1 40
- Experiences with a new solution for sclerosing varicose veins J E VAN DER KAADE Geneesk Tijdschr v Nederl Indië 1935 72 572
- A radical operation for varicose veins J MOSZKOWICZ Wien klin Wchschr 1935 1 274
- The results of total arterial obstruction an experimental study V BERNARDO and L NOVARA Arch ital di chir 1935 33 731
- A contribution on arterial obstructions The importance of arteriography in surgical diagnosis and treatment J BACK ARTER Deutsche Ztschr f Chir 1935 243 339
- Enteritis nodosa as a manifestation of sepsis lenta due to the streptococcus viridans F MAITNER and W JOEL Acta med Scand 1935 83 397
- Pain in thrombo-angitis obliterans a clinical study of 200 consecutive cases G A GOLDSMITH and G E BROWN Am J M Sc 1935 189 819
- Experimental peripheral gangrene The effect of estrogenic substance and its relation to thrombo-angitis obliterans E J C McGRATH Arch Int Med 1935 55 94
- An experimental study of carotid subclavian anastomoses D FLOY Arch ital di chir 1935 33 466
- Extensive venous resection for optic thrombophlebitis and malignant furuncle of the upper lip M BIEBL 59 Tag d deutsch Ges f Chir Berlin 1935
- So-called traumatic thrombosis of the arm and axillary veins E KUY Beitr z klin Chir 1935 161 250
- The arterial system of amputation stumps of the upper extremity P MAXIMOV Nov Khir Arkh 1935 33 254
- A new method of ligation of the vertebral artery M BOYKARENKO Nov Khir Arkh 1935 33 566
- Venous thromboses arterial obstructions and gangrene of the limbs P WERTHEIMER and P FAHNE Presse méd Par 1935 43 1004

Blood Transfusion

- Acceleration of blood coagulation F GONREBANDT 50 Tag d deutsch Ges f Chir Berlin 1935

- Changes in the glucose content of the blood plasma during saline infusion N SHAVNER Nov Khir Arkh 1935 33 51
- The effect of saline infusion on reserve alkalies of the blood plasma B ANDRIEVSKY and R. VARSHEVA Nov Khir Arkh 1935 33 34
- Changes in the potassium and calcium content of the blood serum following saline infusion B ANDRIEVSKY and F VOLOSIN Nov Khir Arkh 1935 33 45
- Variation in the sodium content of the blood serum following hemorrhage and 1 saline infusion P VARSHEVA and B LOBODETZKY Nov Khir Arkh 1935 33 4
- The comparative action of saline infusions in anemias B ANDRIEVSKY Nov Khir Arkh 1935 33 27
- Hemophilia and heredity H SCHLOSSMANN 59 Tag d deutsch Ges f Chir Berlin 1935
- Blood transfusion J FOGED Ugeskr f Læger 1935 p 433
- Five hundred blood transfusions O O SCHUBERTH and G SÖDERLUND Nord med Tidkr 1935 p 101
- A method of bleeding transfusion on donors H L MAX KOTT and A KELLWICK Lancet 1935 229 78
- The compatibility of the blood of man and of animals N BLINOV Nov Khir Arkh 1935 33 211
- The transfusion of blood in sepsis P NAPIKOV Nov Khir Arkh 1935 33 222
- Indications for blood transfusion in severe trauma V BRATZEV Nov Khir Arkh 1935 33 127
- The transfusion of preserved blood in children with bone tuberculosis L F MAKIN Nov Khir Arkh 1935 33 216
- The treatment of bronchopneumonia in early childhood by blood transfusion P ROMER Bull de l'Ass Med. Langue Franc de l'Amérique du Nord 1935 1 29
- The transfusion of conserved blood from malaria patients V ANCRFIEVICH Nov Khir Arkh 1935 33 360
- Improved direct blood transfusion apparatus F F RIVKIN Am J Surg 1935 29 134

Reticulo Endothelial System

- The reticulo endothelial system R DAVAZZ J de méd de Bordeaux 1935 112 477

Lymph Glands and Lymphatic Vessels

- The clinical and pathological features of a series of twenty cases of Hodgkin's disease E S MILLS and J E FRITCHARD Canadian M Ass J 1935 33 50

SURGICAL TECHNIQUE

Operative Surgery and Technique;
Postoperative Treatment

- The question of operability. F. SCHWARTZ 50 Tag d deutsch Ges f Chir, Berlin, 1935.
- The relationship of arterial hypotension to surgical risk. J. S. McCRESTON. J. Iowa State M. Soc., 1935, 25, 331.
- The value of the Kauffmann diuresis test for cardiac function. S. FRY. Beitr z klin Chir, 1935, 161, 253.
- Sterilization with dry heat in surgery, with particular reference to oily liquids and instruments. A. SCHWITZ. Zentralbl f Chir, 1935, p. 830.
- Disinfection of the hands with zephiran. U. WEITZ. Arch f Hyg, 1935, 114, 7.
- Ozone therapy in surgery. E. PAVR. 50 Tag d deutsch Ges f Chir, Berlin, 1935.
- The treatment of anesthetic accidents. M. DOSS. Zentralbl f Chir, 1935, p. 933.
- The teaching of operative surgery. T. PAERFMAN. Nov Khir Arkh, 1935, 33, 148.
- Emergency surgical treatment. N. K. FORSTER. J. Indiana State M. Ass., 1935, 28, 313.
- A case of skin graft after the method of Filatov and Pann. L. P. VILESOV. Sovet Khir, 1935, 3, 132.
- Transplantation of toes for fingers. O. V. LABINSKAYA. Ann Surg, 1935, 102, 1.
- Sclerosing therapy in various surgical conditions. L. BLAVIER. Bruxelles méd, 1935, 15, 533.
- Continuous intravenous drop infusion. E. STAHNKE. Zentralbl f Chir, 1935, p. 935.
- Errors and dangers in Filatov's skin plastic operation. T. S. LINDENBAUM. Sovet Khir, 1935, 3, 126.
- Maggot therapy, a rapid method of removing necrotic tissues. L. K. FERGUSON and C. W. McLAUGHLIN, JR. Am J. Surg, 1935, 29, 72.
- Postoperative blood chlorides. J. B. FORTACIN. Actas Soc de cirug de Madrid, 1934, 4, 53.
- The prophylaxis and treatment of postoperative toxic complications by means of chloride administration. G. NOZA and M. LÉVY. Bull et mém Soc d chirurgiens de Par, 1935, 27, 300.
- Postoperative control of pain. H. PASCHOLD. 50 Tag d deutsch Ges f Chir, Berlin, 1935.
- Getting the patient out of bed early after abdominal surgery. A. CHARBONNIER. Rev. méd de la Suisse Rom, 1935, p. 402. [468]
- Getting up from bed immediately after operations on the abdomen. H. HAVLICK. 50 Tag d deutsch Ges f Chir, Berlin, 1935.
- A study of disruptions of abdominal wounds. A. H. MILBERT. Arch Surg, 1935, 31, 86.
- Severe complications of eversion. R. NAVEIRO. Bol y trab Soc de cirug de Buenos Aires, 1935, 19, 265.
- The remarkable effect of bronchial aspiration in a patient operated upon for cancer of the stomach. A. CHARRIER. Bull et mém Soc nat de chir, 1935, 61, 698.
- The influence of surgical trauma on the genesis of post-operative pulmonary complications. G. OGGIONI. Clin chir, 1935, 11, 460. [468]
- Postoperative pulmonary complications. W. V. WILKES. West Virginia M. J., 1935, 31, 315.
- Bronchial aspiration in postoperative tracheobronchial obstruction. J. QUÉNU. Bull et mém Soc nat de chir, 1935, 61, 758.
- Postoperative pulmonary atelectasis. A report of eleven cases. H. E. SNYDER. Ann. Surg., 1935, 102, 5. [469]

Our experiences with cardiozol-chinin. The prevention of thrombosis and embolism. L. LURZ and H. KLING. Zentralbl f Chir, 1935, p. 725.

Postoperative intracranial thrombosis in childhood. P. R. EVANS. Lancet, 1935, 220, 12.

Postoperative thrombosis and embolism. E. RANZI and P. HUBER. Wien klin Wchnschr, 1935, 1, 289.

Thrombosis and embolism. A critical examination and study on the question of thrombosis and embolism, with particular reference to so-called bland thrombosis at a distance and fatal pulmonary embolus. R. GEISSENDOERFER. 1935. Leipzig, Barth.

Postoperative roentgen examinations. II Postoperative pulmonary emboli. J. PRIMANN-DAHL. Acta chirurg Scand., 1935, 76, Supp. 36. [469]

Antiseptic Surgery; Treatment of Wounds
and Infections

The study of industrial traumatism. M. KAMINSKY. Nov Khir Arkh, 1935, 33, 570.

Electrical injuries. A. D. KAPLAN. Sovet Khir, 1935, 3, 80.

Electrical injuries. N. N. SYRENSKY. Sovet Khir, 1935, 3, 92.

Experimental burns. I. The rate of fluid shift and its relation to the onset of shock in severe burns. H. N. HAPKINS. Arch Surg, 1935, 31, 71. [469]

The treatment of burns. B. HOIMGREN. Nord med Tidsskr, 1935, p. 413.

Aniline pencil injuries. J. BRAVO y DIAZ-CANEDO. Arch de med, cirug y especial, 1935, 16, 301.

Indirect injuries in naval warfare. H. HIRM. 50 Tag d deutsch Ges f Chir, Berlin, 1935.

The care of the most urgent surgical cases in the battle zone. H. V. WAGNER. 50 Tag d deutsch Ges f Chir, Berlin, 1935.

Occupational dermatitis in zinc workers. S. S. KUSMIN. Sovet Khir, 1935, 2, 90.

Radical operations for hydatid cysts. T. KOLESNI-CHENKO. Nov Khir Arkh, 1935, 33, 555.

First-aid treatment by the physician. F. BRUENING. Fortschr d Therap, 1934, 10, 650.

Asepsis in first-aid treatment. A. D. KAPLAN. Sovet Khir, 1935, 3, 66.

Discussion of the primary treatment of wounds in ambulatory practice. A. F. BERNJAJCO. Sovet Khir, 1935, 3, 47.

The treatment of traumatic injuries and their sequelae. H. KUNZ. Wien klin Wchnschr, 1935, 1, 274.

The treatment of traumatic wounds and their sequelae. H. KUNZ. Wien med Wchnschr, 1935, 1, 372. [470]

Artificial gastric juice in the treatment of suppurative wounds. T. P. KALLISTOV and HAMDI-SELAM. Sovet Khir, 1935, 3, 34.

The treatment of suppurative injuries of the skeleton and soft tissues by the method of Orr. M. O. FRIEDLAND. Sovet Khir, 1935, 3, 40.

The progress of maggot therapy in the United States and Canada in the treatment of suppurative diseases. W. ROBINSON. Am J Surg, 1935, 29, 67.

The technique of wound excision. M. ZUR VERTH. 50 Tag d deutsch Ges f Chir, Berlin, 1935.

Secondary wound toilet by excoriation and suture in minor industrial injuries. S. M. KOIDAJEV. Sovet Khir, 1935, 3, 17.

Cases of amputation and of death in the Accident Hospital of Vienna and in the Viennese Workman's Insurance Company during the years 1926 to 1930 inclusive with special reference to sepsis in recent injuries W EHART Rev de chirug de Barcelona 1935 5 409

The Kaufmann reaction in aseptic operations and in inflammations L FYNDESEN and C SZANTÓ Orvosi hetil 1935 p 144

The influence of embryonal skin detritus on the healing of wounds A VAILEV and E SELKIV Nov Khir Arkh 1935 33 333

Accidents to the hand and arm B ALBERT Rozhl Chir a Gynaec Chir 1935 14 3 [470]

Inflammatory tumor of the index finger following gun shot injury J ARCE O IVANTSEVICH and F L NIVO Bol inst de clin quir Univ de Buenos Aires 1934 10 256

The open treatment of wounds of the hand and finger L FISANOVICH Sovet Khir 1935 3 28

Primary suture in wounds of the fingers and hand T A SCHERERVA Sovet Khir 1935 3 22

Researches on tetanus III Further experiments to prove that tetanus toxin is not carried in the peripheral nerves to the central nervous system J J ARCE B HAMPT and A F JONES JR Bull Johns Hopkins Hosp 1935 56 317 [471]

Hysterical tetanus J J COVLEZARE Guya Hosp Rep Lond 1935 85 212

Cerebral tetanus occurring in civil practice R SHACKMAN Brit M J 1935 2 12

Gas gangrene S A GRANTHAM JR J Missouri State M Ass 1935 34 273

Gangrene of the buttock perineum and scrotum due to endameba histolytica report of a case F L MELEVEY and H I MELEVEY Arch Surg 1935 30 980 [471]

Pyogenic general infection and its treatment. F LEYER 135 Stuttgart Enke

The action of mercurochrome and other drugs on normal human skin and in infected wounds J H HILL J Am M Ass 1935 105 100

Ammonium chloride in the treatment of infected wounds M BASTICHUK Sovet Khir 1935 3 36

Diatom and trepel in the treatment of infected wounds P P SMIRNOV Sovet Khir 1935 3 51

Colloidotherapy of infected wounds T B OLESKEVICH Sovet Khir 1935 3 53

Aero-ionotherapy of infected wounds L T VILKINEN Sovet Khir 1935 3 59

Anesthesia

Short and basic anesthesia induced with evipan sodium. K ARENS Med Klin 1935 1 621

A study of 200 cases of evipan sodium anesthesia J NORDEWITZ Hosp Tid 1935 p 463

What is the value of evipan anesthesia? J SCHWITTLER Wien Klin Wochenschr 1935 1 778

The value of evipan anesthesia in war surgery S FEDOROV Nov Khir Arkh 1935 33 209

Intravenous anesthesia induced with evipal soluble A HOLMAN and A MATTHEU Am J Obst & Gynec 1935 30 218

The new divinyl ether vinethen H KELLIAN 59 Tag d deutsch Ces f Chir Berlin 1935 [471]

The use of nembutal in childbirth W J PAWLINGS Med J Australia 1935 2 12

Cyclopropane and ethylene anesthesia T A MEANA Bol y trab Soc de chirug de Buenos Aires 1935 10 302

The blood sugar level in relation to the action of paunetrov and of ether anesthesia MERLINO Arch di ostet e ginec 1935 42 307

General anesthesia induced with gases cyclopropane carbon dioxide nitrous oxide ethylene oxygen A CHURRO Semana med 1935 42 1 93

Spinal anesthesia M BEVVENUTI Polichia Rome 191 42 ex prat 1344

The present status of spinal anesthesia A STARRS Ztsch f Kek hauses 1935 145

Improvement of spinal anesthesia A DE DIEGO Med Libera 1935 19 809

Spinal anesthesia J PORCI Folha med 1935 15 315

Percutaneous spinal anesthesia and a comparison of the blood pressure curve with other types of anesthesia H FRIEDMAN Schmerz 1935 8 12

PHYSICO-CHEMICAL METHODS IN SURGERY

Röntgenology

Radiology and practical medicine LOWE HORDER Pracitioner 1935 135 1

X-rays in general practice C BULL Practitioner 1935 135 7

The utilization of liquid carbon disulphide by roentgen rays F I MOHLER and L S TAYLOR Am J Roentgenol 1935 34 84

The elements of roentgenography of the cranium L BRUNET Radiol med 1935 22 598

The value of X-rays in the diagnosis of diseases and in injuries of the skull W H COLDWELL Practitioner 1935 135 17

The X-ray diagnosis of abdominal disease P KELLY Practitioner 1935 135 18

The reaction of the liver and spleen to roentgen irradiation after the intravenous injection of thorotrast R GIBBERT R JONES and S KADENKA Acta radiol 1935 16 445 [474]

The value of roentgen examinations during operation M SOALITZER Arch f klin Chir 193 187 7

The principles of radiological treatment and their bearing on hospital X-ray organization H CHAMBER, and S RUSS Brit M J 1935 3 9

The radiation diagram of roentgen therapy A ARRA LOWE Acta radiol 1935 10 498

Deep effect and localization in the short wave condenser field H NAGELSCHMIDT Brit J Radiol 1935 8 449

The blood changes occurring in the course of roentgen therapy with large fractionated and protracted doses M TRUPANO Radiol med 1935 22 579 [474]

The effect of irradiation on the lymph glands and the lymphatic circulation S TENEFF and F STOPPARD Radiol med 1935 22 768 [474]

A note on the biocidal effects of roentgen rays F I MOHLER and L S TAYLOR Am J Roentgenol 1935 34 89

The X-rays in skin diseases A M H GRAY Practitioner 1935 135 59

General therapy of internal diseases G BUCKY Med Rec New York 1935 142 71

Deep X-ray therapy in malignant disease W M LEVITT Practitioner 1935 135 43

- Experimental studies on the combined heat-roentgen therapy of malignant tumors K OYERGAARD Acta radiol, 1935, 16 461 [474]
 Radiology of chest disease F G Wood Practitioner, 1935, 135 29
 Tumors of the sacrum from the roentgen point of view C PROCTOR Radiol med, 1935, 22 737. [475]

Radium

- A comparison photometer and its use in determining the distribution of radiation in a phantom M WILLIAMS Radiology, 1935, 25 55
 The correction of dietary errors in connection with radium treatment D T QUICKE Am J Roentgenol, 1935, 34 51
 The measurement of the dosage and intensity distribution in the radium teletherapy unit at Westminster Hospital H T FRY and C W WILSON Brit J Radiol, 1935, 8 476
 Report on treatment by radium at Guy's Hospital from 1930 to 1933 P. RADING and J B BLAIR Guy's Hosp Rep, Lond, 1935, 85 241
 A simple method of locating lost radium in an emergency A C OHLER Radiology, 1935, 25 105
 Complications and injuries in radium therapy I I KAPLAN Am J Roentgenol, 1935, 34 77

Miscellaneous

- A bipolar electrode for surgical diathermy S SHAM-RAVITSKY Nov Khir Arkh, 1935, 33 162
 Fulguration and electrodesiccation E P CUMBERBATCH and W D HARMER Practitioner, 1935, 135 71
 Antirachitic effects of radiation from different sources; a comparative study C I REED and A BACHEM Am J Dis Child, 1935, 50 11
 Infrared therapy J ECHTMAN Med Rec, New York, 1935, 142 80
 Short-wave therapy E RAAB Zentralbl f Chir, 1935, p 752
 The present status of short-wave therapy E RAAB Deutsche med Wchnschr, 1935, 1 380
 The physiological basis of short-wave therapy H F WOLF Med Rec, New York, 1935, 142 76
 The use of short-wave therapy in medicine J W. TORBERT, JR Texas State J M, 1935, 31 200
 An interesting gynecological case treated with ultrashort-wave therapy H H FRIEDERWITZ Med Rec, New York, 1935, 142 83
 What can radiotherapy accomplish for hopeless malignancy? H B PHILLIPS Med Rec, New York, 1935, 142 84
 The effect of hard roentgen rays and gamma rays of radium D DEN HOED Radiology, 1935, 25 57

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

- The etiology of congenital and hereditary deformities S M FITCHET New England J Med, 1935, 213 164 [476]
 Congenital hypertrophy of the thumb and index finger and the thenar eminence ROCHET, SECOLSKI, and POULANNE J de méd de Bordeaux, 1935, 112 195
 Gynandroid macrogenitalism E SORREL and SOPREL-DEFRIVE Presse med, Par, 1935, 43 942
 Hirsutism J E JENNINGS Ann Surg, 1935, 102 140
 The effect of climate on surgical diseases and injuries R RANZI Wien med Wchnschr, 1935, 1 677
 The leucocyte count as a differential diagnostic method in acute surgical injuries T LIPSEY Nov Khir Arkh, 1935, 33 15
 Shock T GRIGOROVSKI Nov Khir Arkh, 1935, 33 195
 Arteriography during anaphylactic shock in the rabbit VALLERY-RADOT, LÉDOUX-LEBARD, HAMBURGER, HUGO, and CALDEFON Presse méd, Par, 1935, 43 1057
 The fate of foreign bodies in the tissues of men V P BOBULIN and T M TOFAN Sovet Khir, 1935, 3 75
 Changes in the total serum albumin and its fraction following hemorrhage with saline infusions B ANDRIJEVSKY and T KACHENKO Nov Khir Arkh, 1935, 33 56
 The surgical treatment of severe forms of lymphedema (elephantiasis) of the extremities, a study of end-results R K GORMLEY and L M OVERTON Surg, Gynec & Obst, 1935, 61 83
 The syndrome of gastro-esophageal burning sensation with migraine, urticaria or Quincke's edema, parathyroid treatment GASTON-DURAND Presse méd, Par, 1935, 43 987
 Roentgenological observations upon osseous panaritium, its forms and results V A DJACHENKO Sovet Khir, 1935, 2 70

- Spleen therapy of bone, joint, and gland tuberculosis I SZABÓ Tuberkulózis, 1935, 3 115
 The specimeness of certain hemolytic streptococci L HFKTOEN J Am M Ass, 1935, 105 1
 The Kaufmann reaction in local inflammations and following aseptic operations L FINEISEV and G SZANTÓ Beitr z klin Chir, 1935, 161 385
 Schueller-Christian disease L BARY and P MALGRAS Bull et mém Soc nat de chir, 1935, 61 782
 New ideas on the etiology and treatment of agranulocytosis A PUCHET Presse méd, Par, 1935, 43 1027
 Agranulocytosis H JACKSON, JR Ann Int Med., 1935, 9 26
 Cyclical agranulocytic angina. D J STEPHENS and J S LAWRENCE Ann Int Med, 1935, 9 31
 A case of osteolympathic Besnier-Boeck's disease Studies on the etiology. R J. WISSENBAUGH and M. KAPLAN Bull et mém Soc méd d hop de Par, 1935, 51 1036
 Congenital dermoid cysts and sinuses of the limbs M J BENNETT-JONES Brit J Surg, 1935, 23 66
 Cerebral compression due to a localized hematoma J A PONCET Rev méd de la Suisse Rom, 1935, p 522
 The treatment of hemangiomas D. W. MACCOLLUM Am J Surg, 1935, 29 32
 An atypical form of tuberous sclerosis R M STEWART Brit M J, 1935, 2 60
 Granuloma gangraenescens J BERNDES Muenchen med Wchnschr, 1934, 2 2005. [476]
 Neoplasms and trauma A JENTZER Rev méd de la Suisse Rom, 1935, p 482
 Tumors and associated problems F K SOUKUP U. S Nav M Bull, 1935, 33 348
 Tumor of the wrist R SOUPAULT Bull et mém Soc nat de chir, 1935, 61 733
 The histogenesis of basal-cell epithelioma H MONTGOMERY Radiology, 1935, 25 8
 Epithelioma following chronic paronychia I SILVERMAN Am J Surg, 1935, 29 141

An investigation of the value of lead compounds in the treatment of malignant tumors M DAINOW Am J Cancer 1935 24 537

The surgical treatment of malignancy with reference to irradiation V SCHMIEDEN Wiss Woch Frankfurt a M 1935 2 110

The modern view of cancer J P LOCKHART MUX MERY Polichin Rome 1935 42 sez prat 1103

Extracorporeal culture of uterine cancer An attempt to improve the culture medium I VARITA Jap J Obst & Gynec 1935 18 187

A study of the Walker rat mammary carcinoma 256 in vivo and in vitro W R FARLE Am J Cancer 1935 24 350 [477]

On the susceptibility to cancer development in the skin and in the mammary gland in two lines of inbred mice L KRISTBERG Am J Cancer 1935 24 554

A comparison of the normal estrous cycle and of the response to the administration of estrin in two strains of mice differing greatly in the incidence of spontaneous mammary cancer C M BUCKER J Path & Bacteriol 1935 41 33

The defense reactions of the body to the development of cancer and their importance in the healing process W CASPARI Wiss Woch Frankfurt a M 1935 2 22 [477]

The action of urinary extracts on the suprarenal glands and ovaries of the rabbit their application to the diagnosis of cancer M ARON Presse med Par 1935 43 1044

Cancer in British Malaya and the Philippine Islands F L HOFFMAN Am J Cancer 1935 24 661

Pseudomucinous carcinomatosis L COHEN Brit J Surg 1935 23 110

Focal reactions in inoperable cancer M B LEVIN Med Rec New York 1935 142 62

The therapy of advanced cancer with gonococcus vaccine A A ABRAMOV Sovet Khir 1935 2 98

The intratumoral injection of a solution of rattlesnake venom in the treatment of the pain of cancer R J RAB Arch uruguayos de med ciruj y especial 1935 6 569

Carcinosarcoma W F HARVEY and T D HAMILTON Edinburgh M J 1935 42 35 [478]

The influence of caloric intake upon the growth of sarcoma 182 F BISCHOFF M L LOVO and E C MAXWELL Am J Cancer 1935 24 549

The water balance in surgery P E CHURCH Am J Surg 1935 9 64

The calcium picture following operations and blood transfusions W M KREINER and H BEUTLER Deutsche Zschr f Chir 1935 244 511

Air embolism C L HAMILTON and E ROTHSTEIN J Am M Ass 1935 104 2226 [479]

General Bacterial Protozoan and Parasitic Infections

Septicemia O FONTESVILLE Polichin d, 1935, 16 264

Chronic a tinomycotic pyemia of pulmonary origin L SECHERRE Presse med de la Suisse Rom 1935 p 544

A case of rat bite fever following a cat bite J P STROMBECK Svenska Lakartidningen 1935 p 577

Ductless Glands

Permanent arterial hypertension and the endocrine gland P HALBROV and H P KLOTZ Presse med Pa 1935 43 975

The secretion of the hypophysis E KYLIN Acta med Scand 1935 85 451

The thyroid-stimulating hormone of the anterior pituitary gland L LOEB Ann Int Med 1935 9 11

Studies on infantile neurohypophyseal obesity M SCHWARTZ Rassegna internaz di clin e terap 1935 16 517

Acromegaly R I KNAPP Brit J Surg 1935 21 69 [480]

The hypophysis and compensatory hypertrophy of the testicle in the toad R A HOLWAY and J M LARANO Gonzalez Rev Soc argent de biol 1935 11 102

Endogenous nitrogen metabolism in hypophysectomized rats B BRAUER and R MOREA Rev Soc argent de biol 1935 11 38

The physiology of the parathyroid A M HANSON J Am M Ass 1935 105 115

The parathyroids and the carbon dioxide metabolism A FERRANNINI Polichin Rome 1935 4 sez med 366

The skin in experimental hyperparathyroidism A study of experimental scleroderma R LYRCH A JERU and C. SUREVKA Presse med Par 1935 43 [480]

Parathyroid hormone therapy J C ALLEN J Am M Ass 1935 105 197

Biological effects of thymus extract (Hanson) securing a celebration in growth and development in five successive generations of rats and continuous treatment with thymus extract L L KOWATZ J H CLARK A M HANSON and A STEINBERG Arch Int Med 1935 56 1

The pancreas and its relationship to other glands of internal secretion J LA BARRE Bruxelles Méd 1935 15 951

DECEMBER, 1935

International Abstract of Surgery

Supplementary to
Surgery, Gynecology and Obstetrics

EDITORS

ALLEN B. KANAVEL, Chicago
LORD MOYNIHAN, K.C.M.G., C.B., Leeds
PIERRE DUVAL, Paris

ABSTRACT EDITORS

MICHAEL L. MASON and SUMNER L. KOCH

DEPARTMENT EDITORS

EUGENE H. POOL, General Surgery	JOHN ALEXANDER, Thoracic Surgery
FRANK W. LYNCH, Gynecology	ADOLPH HARTUNG, Roentgenology
CHARLES H. FRAZIER, Neurological Surgery	HAROLD I. LILLIE, Surgery of the Ear
OWEN H. WANGENSTEEN, Abdominal Surgery	L. W. DEAN, Surgery of the Nose and Throat
PHILIP LEWIN, Orthopedic Surgery	ROBERT H. IVY, Plastic and Oral Surgery
LOUIS E. SCHMIDT, Genito-Urinary Surgery	

CONTENTS

I. Index of Abstracts of Current Literature...	...iii-vi
II. Authors of Articles Abstracted.	viii
III. Collective Review	505-513
IV. Abstracts of Current Literature	514-578
V. Bibliography of Current Literature	579-600
VI. Index to Volume 61. .. .	i-xxiv

Editorial Communications Should Be Sent to Allen B. Kanavel, Editor, 54 East Erie St., Chicago
Editorial and Business Offices: 54 East Erie St., Chicago, Illinois, U. S. A.
In Great Britain: 8 Henrietta St., Covent Garden, London, W.C. 2.

CONTENTS—DECEMBER, 1935

COLLECTIVE REVIEW

PRESENT-DAY VIEWS ON EMBOLISM	<i>William M Mullar, M D, and Mont R Reid, M D, Cincinnati, Ohio</i>	505
-------------------------------	--	-----

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK		
Head		
GURDJIAN, E S The Management of Depressed Fractures of the Skull and Old Skull Defects	514	
MONDOR, H, and GAUTHIER-VILLARS, P Tuberculosis of the Submaxillary Gland	514	
FAGIOLI, M Roentgenographic Studies of the Cranium of Women with Dysfunction of the Genital Organs	545	
BRUNETTI, L Indications and Projections for Tele-roentgenograms in Craniology	573	
Eye		
REESE, A B Exophthalmos Ocular Complications, Causes from Primary Lesions in the Orbit, Surgical Treatment	515	
FEWELL, A G, and FRY, W E Bilateral Retinal Gloma Treated by Radiation A Clinical and Histological Report	515	
LEVINE, J Primary Melanosarcoma of the Optic Disk	516	
Ear		
MYERSON, M C, RUBIN, H W, and GILBERT, J G Considerations on Suppuration of the Petrous Pyramid	516	
Nose and Sinuses		
BURNHAM, H H An Anatomical Investigation of Blood Vessels of the Lateral Nasal Wall and Their Relation to Turbinates and Sinuses	516	
WILLIAMS, H L Intranasal Operation for Chronic Maxillary Sinusitis End-Results in 200 Cases in Which the Principles of Kuester Were Employed	516	
PALMER, D L Observations on the Roentgen Pathology of Ethmoid Labyrinth and Sphenoid Sinuses	573	
Mouth		
VEAU, V The Clinical Forms of Unilateral Harelip	517	
VAHERI, E So-Called Mixed Tumors of the Upper Lip	518	
ANHAUSEN, G The Results in Cleft Palates Operated Upon Unsuccessfully	518	
WATSON, W L Adenocarcinoma of the Oral Cavity	518	
ALBRIGHT, H L Carcinoma of the Mouth, with Especial Reference to Treatment	519	
Neck		
VOSS, O Contributions on the Clinical Characteristics of Basedow's Disease	520	
HEIM, H Practical Experiences with the Surgical Treatment of Basedow's Disease	521	
ALBRIGHT, F, and BLOOMBERG, E Hyperparathyroidism and Renal Disease With a Note as to the Formation of Calcium Casts in This Disease	550	
CONTI, G Parathyroidectomy in Ankylosing Poly-arthritis	557	
SURGERY OF THE NERVOUS SYSTEM		
Brain and Its Coverings, Cranial Nerves		
JENTZER, A Urgent Indications for Operation in Recent Closed Traumatic Cranial and Cerebral Injuries	523	
WECHSLER, I S Abdominal Pain as a Symptom of Disease of the Brain	523	
BUCKY, P C, and BUCHANAN, D N The Simulation of Intracranial Tumor by Lead Encephalopathy in Children, with Remarks Concerning the Surgical Treatment of the Latter	523	
WINKLER, E Injuries of the Middle Meningeal Artery	524	
Spinal Cord and Its Coverings		
PORRO, N Roentgen Exploration of the Subarachnoid Space—Myelography	524	
ADELSTEIN, L J, and PATTERSON, G H The Surgical Treatment of Ependymal Glioma of the Spinal Cord	525	
D'HARCOURT GOT, J, and D'HARCOURT GOT, M A Contribution to the Study of Intraspinal Meningo-Exotheliomas	525	
WOHLFAHRT, S, and WOHLFART, G Microscopic Studies on Progressive Muscle Atrophies, with Special Regard to the Findings in the Spinal Cord and Muscles	557	
BONOLA, A, and PERRICONE, F A Clinicostatistical Study of 1,950 Cases of Poliomyelitis	577	

Peripheral Nerves

- GOSSET A and BERTRAND I The Use of the Spinal Cord as a Heteroplastic Graft for Peripheral Nerves 516

Sympathetic Nerves

- LEVIN G L L The Treatment of Bronchial Asthma by Dorsal Sympathectomy 516
- DE TAKATS G Splanchnic Nerve Section in Juvenile Diabetes 516

Miscellaneous

- LANTIER L H, CARMY H M and WILSON W D Cutaneous Innervation An Experimental Study 517

SURGERY OF THE THORAX

Chest Wall and Breast

- EITNER E The Use of Skin Flaps in Cosmetic Plastic Operations on the Breast 518
- MENVILLE J G Fatty Tissue Tumors of the Breast 518

Trachea Lungs and Pleura

- BLUM I L The Working Test as a Clinical Method for Determining the Function of the Lungs 518
- IZO R A, ACUTLAK O P and ACUTLAK H D Results of Surgery of Pulmonary Tuberculosis 519
- LONGACRE J J Experimental Total Pneumectomy 519
- STERN L Putrid Abscess of the Lung Following Dental Operations 519
- PINCERN A J S and MORLOCK H V Lung Abscesses and Their Treatment 521
- LLOYD M S The Early Classification and Early Diagnosis of Cancer of the Bronchus 522
- BREXER P The Secretion of Mucus in the Trachea and Bronchi in Relation to Ether and Chloroform Anesthesia 521

Heart and Pericardium

- FISCHER H Advances in the Field of Thoracic Surgery The Pericardium and the Heart 523

Esophagus and Mediastinum

- GUTER J The Relative Frequency of Various Affections of the Esophagus According to a Statistical Study of Cases Observed in the Last Ten Years 523

Miscellaneous

- FELDMAN L, TRACE I M and KAPLAN M I Eventration of the Right Diaphragm Report of a Case with a Review of the Literature Chiefly from the Standpoint of Etiology and Diagnosis 524

SURGERY OF THE ABDOMEN

Gastro-Intestinal Tract

- ANAGNOSTIS N Volvulus of the Stomach 525
- MARTELLOTT K H and SICKOW C R Wound Healing After Anterior Gastro Enterostomy

- II The Fate of Mucosal Intestines and Their Prevention Description of a New Suture Technique An Experimental Study in Dogs 525

- ENGLUND F and WÄHLGREN F A Clinical Case of Cystoid Pneumatosis of the Intestines 526
- GRABERGER G The Roentgen Picture in Cystoid Pneumatosis of the Intestines 526
- MILLER R, and GAGE, H C Chronic Duodenal Ileus in Infancy and Childhood 526
- ROMUALDI P External Duodenal Fistula. A Clinical Study Based on 137 Cases Including 4 Personal Cases 53
- ZOBEL A J and STANOW D A Melanosis Coli Its Clinical Significance 532
- DOMENICI L The Surgery of the Colon Exclusive of Operations for Tumors and Cysts and on the Appendix 533
- ORLEY, A The Roentgenological Diagnosis of the Diseased Appendix 533
- TITONE M Changes in Gastric Function in Relation to Appendicitis 539
- LOCKHART MUMFERY J P and LLOYD-DAVIES O V The Operative Treatment of Fibrous Stricture of the Rectum 539
- CHENE, P, and DUBARRY J Hemorrhoids and Sclerotic Treatment 540

Liver, Gall Bladder Pancreas and Spleen

- COLP R, DOUBILET H and GRABER J F The Relation of Cholecystitis to Pathological Changes in the Liver 541
- ILLINGWORTH C F W Carcinoma of the Gall Bladder 541
- BRANCH C D and GROSS R F Aberrant Pancreatic Tissue in the Gastro-Intestinal Tract A Report of Twenty Four Cases 542

Miscellaneous

- WECHLER I S Abdominal Pain as a Symptom of Disease of the Brain 542
- OVERHOLT R H and DONCHERS J C Subphrenic Abscess 542

GYNECOLOGY

Uterus

- GLASSON S The Technique of Stereohystero-graphy 544
- WALLBRUCH E The Necessity of Removing the Adnexa with the Uterus in Operating for Carcinoma of the Body of the Uterus 544

Adnexal and Peritoneal Conditions

- KLAFFEN E A Further Contribution to the Knowledge of Granulosa Cell Tumors 545

Miscellaneous

- FAGGOLI M Roentgenographic Studies of the Cranium of Women with Dysfunction of the Genital Organs 545
- COURNATES H The Physiotherapy of Genital Hemorrhages in Women from Causes Other Than Pregnancy and Tumors 546

- JAYLE, F. The Surgical Treatment of Genital Hemorrhages Due to Causes Other Than Pregnancy and Tumors 546
- VERCHIO, G. The Thermic Effect of the Short Wave and of Diathermy in the Field of Gynecology 547
- ARNESON, A. N., and QUIMBY, E. H. The Distribution of Roentgen Radiation Within the Average Female Pelvis for Different Physical Factors of Irradiation 574

OBSTETRICS

Pregnancy and Its Complications

- MORRA, G. Variations of the Total Blood Phosphorus in the Physiological Puerperal State 548
- WODON, J. L. The Experimental Production and the Pathogenesis of Eclampsia 548

Labor and Its Complications

- NATHANSON, J. N. A Parallel Study of Labor in Young and Old Primiparas 548
- LE LORIER, V. A Discussion of the Treatment of Retroplacental Hemorrhage with Uterine Apoplexy Statistics on Retroplacental Hematomas Observed in the Period from 1924 to 1935 549
- STEIN, I. F., and LEVENTHAL, M. L. An Analysis of 381 Cesarean Section Cases in a Ten-Year Period at Michael Reese Hospital, Chicago 549

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter

- CALDER, R. M., and PORRO, F. W. Adenoma of Adrenal Cortex Simulating Pituitary Basophilism (Cushing's Syndrome) 550
- ALBRIGHT, F., and BLOOMBERG, C. Hyperparathyroidism and Renal Disease With a Note as to the Formation of Calcium Casts in This Disease 550

Bladder, Urethra, and Penis

- LOUGHNANE, F. MCG. Retention of Urine 550
- FRIEDRICH, H. Sphincter-Sclerosis in the Female 551
- PÉREARD, J., and ELBIM, A. Endometriomas of the Bladder 551
- HARRIS, S. H. Posterior Segmental Block-Excision of the Bladder Neck with Primary Closure 552
- LAZARUS, J. A., and ROSENTHAL, A. A. Ruptured Pyo-Urachus Complicated by Urethral Stricture 552
- THOMPSON, A. R. Stricture of the External Urinary Meatus 552
- ROTENBERG, M. I. The Role of the Viscosity of the Blood in the Pathogenesis of Priapism 553
- UHLE, C. A. W., and ARCHER, G. F. Primary Carcinoma of Cowper's Gland Report of a Case, with a Review of the Literature 553

Genital Organs

- MARION, G. Atony of the Prostate 553
- OBERNDORFER. The Specific Malignant Testicular Tumor, Seminoma 553
- WILHELM, S. F. Vaso-Orchidostomy with Interposed Spermatocele A Procedure for the Treatment of Sterility 554

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc

- FARIAS, P. L., and INCLÁN, A. The Contribution of Arteriography to the Differential Diagnosis of Bone Lesions 555
- FINKELSTFEN, H. The Correction of Rachitic Deformities by Preliminary Decalcification 555
- FRANSFEN, C. C., and McLEAN, R. The Phosphatase Activity of Tissues and Plasma in Tumors of Bone 556
- COLEY, W. B. Malignant Changes in the So-Called Benign Giant-Cell Tumor 557
- BUUS, C. E. P. Articular Changes in Hemophilia 557
- CONTI, G. Parathyroidectomy in Ankylosing Polyarthrits 557
- WOHLFAHRT, S., and WOHLFART, G. Microscopic Studies on Progressive Muscle Atrophies, with Special Regard to the Findings in the Spinal Cord and Muscles 557
- FILIPPI, A. The Healing of the Intervertebral Disk After Removal of the Nucleus Pulposus in Experimental Animals 558
- HOFFMANN, R. Epiphyseal Pseudotuberculosis—Osteochondritis Juvenalis 559

Surgery of the Bones, Joints, Muscles, Tendons, Etc.

- JONES, H. T. The Treatment of Acute Purulent Arthritis by Joint Washing and Closure 559
- BÉYOUL, A. Dupuytren's Disease 560
- PAGE, C. M. Late Results of the Operative Treatment of Osteo-Arthritis of the Hip Joint 561
- PEREYRA, R., and PALMA, E. Drainage of the Knee Joint 561

Fractures and Dislocations

- BAZY, L., and GAITER, M. Surgical Treatment of Isolated Forward Luxation of the Lower End of the Ulna 562
- SPEED, K. Fractures of the Bodies of the Vertebrae 562
- TELSON, D. R., and RANSOROFF, N. S. Treatment of the Fractured Neck of the Femur by Axial Fixation with Steel Wires 563

SURGERY OF BLOOD AND LYMPH SYSTEMS

Blood Vessels

- BURNHAM, H. H. An Anatomical Investigation of Blood Vessels of the Lateral Nasal Wall and Their Relation to Turbinates and Sinuses 516
- WINKLER, E. Injuries of the Middle Meningeal Artery 524
- COLT, G. H., RAMSAY, I. S. W., and MORRISON, M. M. The Injection Treatment of Varicose Veins 564
- VEAL, J. R., and MCFETRIDGE, E. M. Primary Thrombosis of the Axillary Vein An Anatomical and Roentgenological Study of Certain Etiological Factors and a Consideration of Venography as a Diagnostic Measure 564
- BAUMGARTNER, J. A Contribution on Arterial Obliterations The Importance of Arteriography in Surgical Diagnosis and Treatment 565

Blood, Transfusion

- MORRA G Variations of the Total Blood Phosphorus in the Physiological Puerperal State 548
- ROTHBERG M I The Role of the Viscosity of the Blood in the Pathogenesis of Pruritus 553
- BUTTS C E P Articular Changes in Hemophilia 557
- HESSE E Mistakes, Dangers and Unforeseen Complications of Blood Transfusion as Revealed by a Study of 2,500 Cases 566
- BERKMAN T M On the Transfer of Infections Through Blood Transfusion 56
- MERLINO The Blood Sugar Level in Relation to the Action of Famine and of Ether Anesthesia 572
- JURA V The Pre-Operative and Postoperative Lipids of the Blood 55
- Lymph Glands and Lymphatic Vessels
- OSTI U An Unusual Location of a Cystic Lymphangioma in a Girl 567

SURGICAL TECHNIQUE

Operative Surgery and Technique Postoperative Treatment

- GUBRY Operative Infection and Total Sterilization 568
- BURMAN F Plastic Surgery of the Hand 568
- RAAZI E and HUBER P Postoperative Thrombosis and Embolism 569

Antiseptic Surgery, Treatment of Wounds and Infections

- CUBBER SALISBURY L The Present Status of the Treatment of Severe Burns 572
- BARY L The Prevention of Tetanus Active Immunization by Vaccination or Passive Immunization by the Use of Serum? 574

Anesthesia

- BEZZA P The Secretion of Mucus in the Trachea and Bronchi in Relation to Ether and Chloroform Anesthesia 574
- MERLINO The Blood Sugar Level in Relation to the Action of Famine and of Ether Anesthesia 572

PHYSICO-CHEMICAL METHODS IN SURGERY

Roentgenology

- FEWELL, A G, and FRY W E Bilateral Retinal Glioma Treated by Radiation A Clinical and Histological Report 515
- FORERO N Roentgen Exploration of the Subarachnoid Space—Myelography 524
- GRUBBERGER G The Roentgen Picture in Cystoid Pneumatosis of the Intestines 536
- ORLEY, A The Roentgenological Diagnosis of the Diseased Appendix 538
- CLASON S The Technique of Stereohysterography 544

- FAGIOLI M Roentgenographic Studies of the Cranium of Women with Dysfunction of the Genital Organs 545
- FARRAS P L and INGLIS A The Contribution of Arteriography to the Differential Diagnosis of Bone Lesions 555
- VEAR J R, and McFETRIDGE E M Primary Thrombosis of the Axillary Vein An Anatomical and Roentgenological Study of Certain Etiological Factors and a Consideration of Venography as a Diagnostic Measure 564
- BALMONTIER J A Contribution to Arterial Obstructions The Importance of Arteriography in Surgical Diagnosis and Treatment 565
- GALLAVRE L A Photomicroscopic Study of Certain Lesions Appearing in Roentgenograms 513
- BRUNETTI L Indications and Projections for Tele-roentgenograms in Cranialogy 573
- PALMER D I Observations on the Roentgen Pathology of Fibroid Labyrinth and Sphenoid Sinuses 573
- SOKOLOV I and GERBET P Roentgen Therapy in Inflammatory Diseases 575
- ARNESON A N and QUINBY E H The Distribution of Roentgen Radiation Within the Average Female Pelvis for Different Physical Factors of Irradiation 574
- VALLERY RADOT LYDOUN LEBARD HAMBURGER HUO, and CALDERON Arteriography During the Course of Anaphylactic Shock in the Rabbit 575
- Miscellaneous

- VIRCHIO G The Thermic Effect of the Short Wave and of Diathermy in the Field of Gynecology 547

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

- JURA V The Pre-Operative and Postoperative Lipids of the Blood 513
- VALLERY RADOT LYDOUN LEBARD HAMBURGER HUO, and CALDERON Arteriography During the Course of Anaphylactic Shock in the Rabbit 575
- HICKEN N F Infectious Gangrene of the Skin Due to Bacterial Synergism with Particular Reference to Noma and Postoperative Cutaneous Gangrene 576
- HOMMEYER F Hospital Gangrene 56
- DAYNOW M An Investigation of the Value of Lead Compounds in the Treatment of Malignant Tumors 577

General Bacterial, Protozoan and Parasitic Infections

- LEXER E Pyogenic General Infection and Its Treatment 577
- DIAMANTIS A Ectopic Bilharziasis Experimental Bilharziasis and the Hepatic Stage of the Bilharzial Parasite in Man 579

BIBLIOGRAPHY

Surgery of the Head and Neck

Head ..	579
Eye ..	579
Ear ..	580
Nose and Sinuses ..	580
Mouth ..	581
Pharynx ..	581
Neck ..	581

Surgery of the Nervous System

Brain and Its Coverings; Cranial Nerves	581
Spinal Cord and Its Coverings	582
Peripheral Nerves	582
Sympathetic Nerves	582
Miscellaneous ..	582

Surgery of the Thorax

Chest Wall and Breast	583
Trachea, Lungs, and Pleura	583
Heart and Pericardium	584
Esophagus and Mediastinum	584
Miscellaneous ..	584

Surgery of the Abdomen

Abdominal Wall and Peritoneum	584
Gastro-Intestinal Tract	585
Liver, Gall Bladder, Pancreas, and Spleen	587
Miscellaneous ..	587

Gynecology

Uterus ..	588
Adnexal and Periuterine Conditions	588
External Genitalia	589
Miscellaneous ..	589

Obstetrics

Pregnancy and Its Complications	590
Labor and Its Complications	591
Puerperium and Its Complications	592
Newborn	592
Miscellaneous ..	592

Genito-Urinary Surgery

Adrenal, Kidney, and Ureter ..	592
Bladder, Urethra, and Penis	593
Genital Organs	593
Miscellaneous ..	594

Surgery of the Bones, Joints, Muscles, Tendons

Conditions of the Bones, Joints, Muscles, Tendons, Etc	594
Surgery of the Bones, Joints, Muscles, Tendons, Etc	595
Fractures and Dislocations ..	595

Surgery of the Blood and Lymph Systems

Blood Vessels	596
Blood, Transfusion	597
Lymph Glands and Lymphatic Vessels	597

Surgical Technique

Operative Surgery and Technique; Postoperative Treatment	597
Antiseptic Surgery, Treatment of Wounds and Infections	597
Anesthesia	598

Physicochemical Methods in Surgery

Röntgenology	598
Miscellaneous	599

Miscellaneous

Clinical Entities—General Physiological Conditions	599
General Bacterial, Protozoan, and Parasitic Infections	600
Ductless Glands	600
Surgical Pathology and Diagnosis	600
Experimental Surgery	600
Hospitals, Medical Education and History	600

AUTHORS OF ARTICLES ABSTRACTED

- Adelstein L. J 525
 Aguilar H D, 530
 Aguilar O P 530
 Albright F, 550
 Albright, H L 519
 Anagnostidis N 535
 Archer G F 553
 Arneson A. N 574
 Axhausen G 518
 Baumgartner J 565
 Bary L. 562 571
 Beckman T M 507
 Bertrand I 526
 Bfyoul A. 560
 Bezza, P 571
 Bloomberg E, 550
 Blum I L 528
 Branch C D 542
 Brunetti L. 573
 Buchanan D N, 523
 Bucy P C 523
 Burian F, 568
 Burnham H H 516
 Buus, C E P 557
 Calder R. M 550
 Calderon 575
 Carney H M 577
 Chêne P 540
 Clason S, 544
 Coley W B, 557
 Colp R, 541
 Colt G H 564
 Conti G, 557
 Courriades H 546
 Datnow M 577
 De Takats G 56
 D Harcourt Got J 525
 D Harcourt Got M 525
 Diamantus, A 578
 Domancia L 538
 Donchess J C 542
 Doubilet H 541
 Dubarry J 540
 Eitner E 528
 Elbum A 551
 Englund F, 536
 Fagnoli M, 545
 Fariñas, P L 555
 Feldman L 534
 Fewell A. G 515
 Fidippi A 558
 Finkelstein H 555
 Fischer H 532
 Franseen C C 556
 Friedrch H 551
 Fry W E 515
 Gage H C 536
 Gallavresi L 573
 Galtier M 562
 Gauthier Villars P 514
 Gerber I E 541
 Gilbert P 573
 Gübert J G 516
 Gosset, A 526
 Gräberger G 536
 Gross R. F 542
 Gubera Sabachs L 571
 Gudín 568
 Guiser J 533
 Gurdjian E S 514
 Hamburger 575
 Harris S H, 552
 Heim H 521
 Hesse, E 566
 Hürken N F 576
 Hoffmann R 559
 Hohmeier F 576
 Huber P 569
 Higo 575
 Illingsworth C F W 541
 Inclán A 555
 Izzo P A 530
 Jayle F 546
 Jentzer A 523
 Jones H T 559
 Jura V, 575
 Kaplan M I, 534
 Klafsten E 545
 Lanier L H 527
 Lazarus J A 552
 Ledoux Lebard 575
 Le Loner, V 540
 Leventhal M L 549
 Levin G L L 526
 Levine J 516
 Lexter E 577
 Lloyd M S 532
 Lloyd Davies O V 539
 Lockhart Mummery J P 530
 Longacre J J, 530
 Loughnane F McG 550
 Marion G 553
 Martzloff K H 535
 McFetridge E M, 564
 McLean R 536
 Menville J G 528
 Merlino 572
 Millar W M 505
 Miller R 536
 Mondor H 514
 Morlock H V 531
 Morra G 548
 Morrison M M M 564
 Myerson M C 516
 Nathanson J N 548
 Oberndorfer 553
 Orley A 538
 Ost, U 507
 Overholt R H 542
 Page C M 561
 Palma E 561
 Palmer D L 573
 Patterson G H 522
 Pérad J 551
 Pereyra R 561
 Pincus A J S, 531
 Porro, F W, 550
 Porro N 524
 Qumby E H 574
 Ramsay I S W, 564
 Ransohoff N S, 553
 Ranzu E 569
 Reese A B, 515
 Reid M R 505
 Romualdi, P 537
 Rosenthal A A 552
 Rotenberg M I, 553
 Rubin H W 516
 Solomon I 573
 Speed K 567
 Stein I F 549
 Stern L 530
 Suckow G R 535
 Susnow D A 537
 Telon D R 503
 Thompson A K 552
 Titone M 539
 Trace I M 534
 Uhle C A W 555
 Vaheri E 518
 Vallery Radot 575
 Veal J R 564
 Veau V, 517
 Voss O 520
 Vurchio G 547
 Wahlgren P 536
 Wallbruch E 544
 Watson W L 528
 Wechsler I S 523
 Wilhelm S F 554
 Williams H L 516
 Wilson W D 527
 Winkler E 524
 Wodon J L 548
 Wohlfahrt S 557
 Wohlfart G 557
 Zobel A J 537

INTERNATIONAL ABSTRACT OF SURGERY

DECEMBER, 1935

COLLECTIVE REVIEW

PRESENT-DAY VIEWS ON EMBOLISM

WILLIAM M. MILLAR, M.D. and MONT R. REID, M.D., CINCINNATI, OHIO

From the Department of Surgery of the College of Medicine of the University of Cincinnati and the Cincinnati General Hospital

THE recent literature on embolism (1932-35) has dealt chiefly with three varieties of the condition: the peripheral, the central or pulmonary, and the gas or air variety¹

It would seem that the authors of the papers pertaining to the first two varieties have interested themselves along one or another of the following lines

- I Pathology
- II Physiology Efforts have been made to determine the relationship and the factors predisposing to it, if any, between emboli and
 - A Bloodclotting (the effects of certain foods, diets, and intravenously administered drugs)
 - B Blood groupings
 - C General diseases such as lues and cancer
 - D Barometric changes
- III Clinical aspects, with emphasis on the difficulties of early and correct diagnosis
- IV Treatment
 - A Surgical, chiefly discussions of technique and adaptations of standard methods
 - B Pharmacological
 - 1 The use and comparative efficacy of various vasodilators
 - 2 The use of various anticoagulants in connection with surgical procedures or as a prophylactic measure
 - C Mechanical, the employment of the so-called "passive exercises"

V Case reports

- A Unusual cases
- B Cases which illustrate the rationale of one of the therapeutic procedures mentioned

It should be of course realized that the majority of the essayists have frequently dealt with more than one aspect of the problem. On account of limitations of space, reports will be summarized in this review only briefly and only those presenting something out of the ordinary or phrasing some already known fact particularly well and succinctly will be cited. The omission of some is necessary because, as Feller says, "Die Zahl der Arbeiten ist ausserordentlich gross!"

PATHOLOGY

General discussion In two excellent papers, Belt (8, 9) emphasizes that while pulmonary embolism is generally considered a rather rare clinical syndrome, it is a common finding at the autopsy table when a search is made for it. At the Toronto General Hospital it was found in about 10 per cent of the cases of adults which came to autopsy, or 56 of a series of 567 cases. The relation of medical cases to surgical cases was 40:16. The Toronto pathologist emphasizes that the postmortem examination should be carefully done according to the following technique. First, a careful examination of the organs *in situ* should be made. Then, before anything is removed, the right ventricle and the pulmonary arteries should be opened and any bloody fluid present should be carefully sponged away. The right ventricle and the pulmonary arteries are

¹This last group, together with the cerebral emboli, have been omitted from this discussion

common sites of emboli. After removal of the great vessel, at the base, the pericardium should be cleaned and the mouths of both pulmonary arteries examined for clot. When the lungs are removed they should be cut along the vertebral border with a long knife and then slit in the direction of the hilus with an incision long enough to expose the main stem of the pulmonary artery. The right side of the heart should be carefully observed as occasionally a cylindrical embolus will be found tangled up in the chordæ tendineæ. Care should always be taken to determine whether the clot found was formed before or after death. This determination is based on the appearance. An antemortem coagulation tends to be 'firmer, less elastic dry, brittle, and rough, and if adherent to the lining of the vessel or if it be of a friable consistency there can be no doubt as to the antemortem origin. Frequently there will be seen also a laminated structure made up of gray layers intermingled with red. The so called lines of Zahn which are found in an antemortem clot should be looked for and recognized. Microscopically a postmortem clot is made up chiefly of red and white cells held together and matted in with fibrin. The antemortem variety shows a large number of platelets and of course, occasional fibroblasts. However even after a clot is found in the pulmonary artery, it is frequently difficult to decide whether it was formed at that site (a clot of the so called autochthonous variety) or was carried there from a distant part of the body. Belt says that a thrombus formed in the pulmonary artery will start as a mural plaque like clot with sessile base and shelving margins firmly adherent to the intima and that it always conforms to the size and shape of the vessel, while a thrombus carried to the pulmonary artery from a distant part of the body may assume a variety of shapes. The latter is likely to present small attached twig-like projections similar in size and position to the small tributaries from which it arose. In addition it may have a ragged end which shows that it was broken off and carried from another part of the body.

These papers stress also the frequent finding of unexpected and clinically unrecognized thrombi in the leg and pelvic veins but admit that thrombosis in the former region is difficult to demonstrate at the autopsy table because permission is almost never given for dissections of the extremities. The Canadians found that 60 per cent of their emboli came from leg veins of patients in whom the condition had not been noted clinically. According to Belt occlusion of a pulmonary vein results in infarction only when a chronic passive

congestion is present. In this connection it should be emphasized that the phenomenon of pulmonary emboli is not a single event or a process taking place at any one time but a recurrent affair, and that, as a rule minute emboli are thrown off before the 'shower' which overcomes the patient. Furthermore at the Toronto General Hospital a 'high correlation between circulatory failure and pulmonary embolism' was noted and it is believed that the slowing of the blood stream is "the most important factor in predisposing to the development of the dangerous type of thrombi within the veins."

Daves (25) has also written an article along the same general lines.

From experiments on dogs Hall and Ettinger (40) concluded that the theory that death in pulmonary emboli is due to reflex effects is not tenable. They decided from their laboratory work also that the clamping of a main branch of the pulmonary artery will raise the pulmonary arterial pressure without causing reflex inhibition of the heart, and that the main pulmonary artery may be compressed 75 per cent without causing death.

Peripheral neuropathology. From a study of the histological changes in the wall of the artery at various intervals after the lodgment of an embolus Gosset, Bertrand and Patel (37, 38) conclude that the involvement of the nervous tissue in the adventitia is of great significance. They agree with Lenche and his co-workers that an obliterated artery is essentially a diseased plexus of nerves. Repeated abnormal irritation of these nerve fibers brings about vasomotor disturbances usually of the vasoconstrictor type, which cause interference with the collateral circulation. As soon as the obliterated segment of the artery is removed the vasomotor phenomena cease.

Albert (2) reports his attempts to determine the exact mechanism of the active vasodilation which follows the obliteration of a major artery. He concludes that the vasomotor response does not depend upon the cerebrospinal or long reflex nerves but is due to physiochemical modifications of the composition of the blood and the interstitial liquid of the affected parts. He believes that specific substances are produced or are accumulated in the periphery of the extremity as a result of such a metabolic disturbance and that these substances act directly upon the walls of the small arteries and the capillaries. When the ultrafiltrate of blood obtained from an extremity showing a marked peripheral vasomotor disturbance was injected into an animal a marked peripheral vasodilation immediately followed. Albert thinks that

the specific substances vary with the different forms of vascular disturbances

Experimental findings Rimini (83) claims that injury of the vessel itself is the cause of emboli and thrombi, and that these phenomena are not dependent merely on stagnation. This conclusion he has apparently verified in animal experiments

PHYSIOLOGY

Predisposition to clotting. Most investigators seem to feel that the basic methods for determining clotting reactions are fairly reliable, but Macies de Torr s (64) maintains that the methods of measuring coagulation are of no value in determining the chance of thrombophlebitis. Nevertheless, Bancroft and Stanley-Brown (7), who use standard procedures, suggest that foods rich in nucleoproteins may increase, and foods low in fat and protein may decrease, coagulability (Considerable work on the relation of diet to the formation of thrombi was done prior to 1932, but is not considered in this review.)

Neuda (67) believes that there is a definite predisposition to thrombi in individuals who have leues or carcinoma

Blood platelets. Brock (13), in summarizing the views on blood platelets and clotting, suggests that an increase in the number of the platelets may be a contributory, though not the sole, cause of thrombus formation

Blood groups. Hess (47), working in a Zurich Hospital, found the blood groups of 49 patients with thrombo-emboli to be as follows:

Blood group*	Cases		Frequency of blood-grouping of Swiss people (according to Breitner)
	No	%	
I	3	6	42.6
II	30	61	43.1
III	4	8	8.8
IV	12	24	5.5

*Presumably Jansky

Weather and atmospheric pressure. In a report of his efforts to determine whether there is any definite relation between the weather and the formation of emboli, Schedter (90) stated that he was unable to prove such relation. On the other hand, Feller (32), from an analysis of lung emboli occurring in the twenty-five-year period from 1909 to 1934, concluded that the incidence of emboli is influenced by atmospheric pressure changes. In addition, his compilations showed that the embolism was most frequent in October, March, and April, that in 89 per cent of the cases it developed within the first ten days after operation, and that in the greatest number of cases it occurred at noon

From data collected from the various clinics of North America and Europe for the period from 1910 to 1930, Rosenthal (87) concludes that there has been a general increase in the incidence of embolism which began in 1919 and became universal by 1922. The rise has been more rapid in persons with surgical conditions than in those with medical conditions

Eppinger's article (29) should be read by anyone desiring a fairly complete review of the standard physiological hypotheses regarding the changes in: (a) the blood stream, (b) the formed elements of the blood, (c) the blood plasma, and (d) injury to the vessel walls

CLINICAL DIFFICULTIES

Pulmonary embolism. The differential diagnosis between thrombosis of the coronary artery and pulmonary embolism has long presented a difficulty to the clinician, and the fact that in many cases the two diseases often exist simultaneously adds tremendously to the troubles of the too often perplexed physician. In two of six cases of fatal embolism reported by Averbuck (4), an already existing arterial condition had been demonstrated by the history, clinical observations, and laboratory data at the time the patient was stricken with the fatal seizure. In the four others there was no past record of disease of the coronary artery, but death was attributed to such disease until autopsy established the fact that it was due to pulmonary emboli. Another point stressed by Averbuck is that when a clinical picture suggesting thrombosis of the coronary artery occurs in a female without arterial hypertension or diabetes, a pulmonary embolus should always be suspected. White (101) says that he and the Massachusetts General Hospital staff frequently have the greatest difficulty in differentiating between these two conditions. In both syndromes the fall in the blood pressure, the coldness of the extremities, and the weakness and general prostration of the patient are remarkably similar. In agreement with numerous other clinicians and surgeons, White believes that embolism should be suspected in any case in which the syndrome develops within two weeks after an operative procedure. Capdevila (17) warns against confusing embolism with internal hemorrhage. Badgley and Smith (5) state that fat embolism, which occasionally follows bone surgery and must be differentiated from pulmonary embolism, will often clear up and recur several times. In this condition there are generally more cerebral findings than in pulmonary embolism and fat globules are often found in the urine and sputum

Peripheral embolism Scott (92) comments on the early symptoms in the peripheral vessels and emphasizes the importance of differentiating them from those of vasomotor reflexes, Raynaud's disease and other similar conditions

TREATMENT

Surgical Treatment

There are at present two schools of thought with regard to the treatment of emboli of either the peripheral or the pulmonary variety. The first favors immediate action with surgical interference the second, temporizing and supportive methods. The last group, with almost an oriental fatalism, argues that if a patient is going to recover (especially the patient with embolism of the central type), he will do so without operative intervention. There are many who believe that the general surgeon is not sufficiently experienced to perform a Trendelenburg or a Myer operation without disastrous results and that a clot caused by trauma to the intimal wall will almost inevitably follow an embolectomy. Consequently they argue, the patient subjected to embolectomy is in a worse condition or at best, no better off than he was prior to the operation. Furthermore it is stated that the majority of the patients treated surgically will have recurrent emboli because of the nature of their primary illness and that the recurrent emboli will soon lodge in another extremity or a vital organ. In short a watchful waiting policy the conservatives declare is far better than surgery. A middle group compromises with the use of antispasmodics and the more recent passive vascular exercise therapy.

Another important point to be considered is the legal angle (White 101). In many states and countries it is necessary to secure formal permission for operation from the family of the patient. The sudden onset of pulmonary embolism obviously necessitates immediate action and much valuable time may be lost in getting in touch with the relatives. If the surgeon proceeds without the consent of the relatives, he and the institution with which he is associated may be held responsible for death following the operation.

Vance (96) calls attention to the importance of the emboli which may give rise to interesting medicolegal tangles especially in accident cases. In cases of such emboli there is always justification for a difference of opinion regarding the part played by the trauma. In many cases it certainly would be difficult to prove or disprove the presence of an underlying thrombus or to determine its relationship, if any, to serious injury.

PULMONARY EMBOLISM *Technical aspects* For reviews of the technique of the two standard procedures of Trendelenburg and Myers the reader is referred to the recent monographs of Caplewick (17), White (101), Cutler (20) and Griswold (39).

Polák (74) believes that, in general, too little attention is paid to the respiration in pulmonary embolism, and that the air exchange should be immediately helped with artificial oxygen. He recommends that heart massage be done when necessary, although he believes that even if immediate recovery should follow this procedure at operation the myocardium may be permanently damaged by such treatment.

Nystrom (69) suggests that the injection of saturated oxygen blood into the aorta or the left heart chamber might be of value. The venous blood could be taken out of the right side of the heart and after saturation with O_2 put back into the circulation. If this were done the pulmonary vessels might be clamped a trifle longer and the few extra moments might be sufficient to prevent death.

Buné (16) recommends highly an apparatus devised by Rehn for use in the Trendelenburg operation. He states that it causes relatively little stoppage of blood in the aorta and pulmonary arteries and therefore reduces the danger of severe damage to the brain and heart from anemia.

Spinal anesthesia Sive (94) says, "Spinal anesthesia is not followed by more complications than is ether but on the contrary is probably followed by less."

Ligation of the veins in thrombosis of the lower leg Homans (50) recommends this old procedure to prevent pulmonary emboli.

Leeches Mahorner and Ochser (85) claim that the use of leeches in cases of phlebitis will definitely reduce the incidence of pulmonary emboli. **Carotid veins** Recent articles on the possibility of embolism following the injection of varicose veins have been published by Hitech and Teichmann (15), Remenovsky (82), and Vigliani (97).

PERIPHERAL EMBOLISM *Technical aspects* The necessity for an early operation or immediate pharmacological therapy is emphasized by all writers on embolism as the incidence of even temporarily successful results shows an amazing decrease after eight or ten hours. While this decrease may be due to several causes the creation of injurious toxins and the formation of constantly increasing progressively growing thrombi at the point of obstruction with plugging up of the collateral circulation are certainly factors of considerable importance. To diminish the chance of thrombosis and peripheral dissemination of post

operative thrombi, Neuhoof (68) advocates "broad approximation of the arterial intima with resultant narrowing of the lumen."

Most surgeons—Erdmann (30), Hunt (53), and Sileo (93), to mention only three—stress the importance of gentleness in the handling of tissues and the avoidance of trauma to wound edges. Bancroft and Stanley-Brown (7) recommend the avoidance of tight abdominal dressings, pointing out that such dressings, together with splinting of the diaphragm and postoperative distention, must cause considerable stasis in the veins of the lower extremities. They believe also that the Fowler position and the lower edge of the tight abdominal adhesive dressings will cause a constriction of the thigh vessels at Poupert's ligament. Farrar (31) declares that chilling should be prevented and enemas with a subnormal temperature avoided. She is of the opinion also that sudden change of the position of the patient's extremities may be a contributory factor. Daniels (21) warns against undue manipulation of fractures, particularly those of the femur in elderly persons, since shortening of even as much as 3 or 4 cm. is preferable to perfect apposition with the risk of death from embolism.

Robertson (84) comments on the importance of the prostatic plexus and the fact that hypertrophy of the prostate is quite frequent in patients with an enfeebled myocardium.

Infection. Thurston and Lamb (95) report experiments in which they found that infection plays only a minor rôle and that surgical trauma and retardation of the blood flow are the chief contributing factors to the thrombus formation occurring after suture.

Instruments. Lichtenauer (63) describes an instrument based on the principle of a spiral probe which will fit snugly into the lumen of a blood vessel. It is a flexible metal tube to which is attached a wire guide with a blunt corkscrew at the end. Lichtenauer believes that injury to the blood-vessel walls is extremely unlikely to be produced by this instrument.

Infusions. Meyer-Wildisen (66) argues that since most fatal emboli have their origin in the thigh veins, intramuscular infusions into the region of these veins should be avoided as they might play a part in creating or releasing emboli. He advises that such infusions be made instead into the upper extremity where similar sequelæ are apparently less likely to occur.

Arteriography. The French especially have become quite interested in arteriography. They inject the opaque medium directly into the vessel. The method most frequently recommended is that

of Santos. The arteriograms are made immediately after the injection of the opaque medium. Detailed reports of cases in which arteriography was carried out have been published by Roux-Berger, Contiadès and Naulleau (88), Abbeloos (1), and Contiadès and Naulleau (18).

Pharmacological Treatment

Antispasmodics. Especially in Europe much work has been done on the use of antispasmodic drugs with particular regard to postembolic sequelæ. The purpose of most of the procedures has been to make it possible for the plug to slip further along toward the periphery by enlarging the lumen of the injured vessels which has been decreased by the spasm caused by the thrombus. In this way collateral circulation is favored as fewer orifices opening into the main channel are likely to be obstructed. It is obvious that if the clot can be washed far peripherally there will be less chance for massive gangrene and the necrotic area may be fairly limited.

Kohlmayer (57), Fuerst (34), and Denk (26, 27) recommend eupaverin, and Girode, Moricard, and Brouet (35), acetylcholine.

Anticoagulants. A paper which has aroused considerable comment in the United States is the contribution of Bancroft and Stanley-Brown (7) in which the intravenous use of sodium-thiosulphate is recommended. Clinically, Bancroft and Stanley-Brown "use 10 c. cm. of a 10 per cent solution for three successive days, repeating the series after a period of two to three days interval if results are unsatisfactory." They admit that their series of cases is too small for definite conclusions. Neuda (67) reports quite favorable results from the intravenous injection of campolon, and Koenig (56), from the intravenous injection of sympatol. Macías de Torrès (64) has employed calcium chloride, but concedes that the number of his cases is not large enough to warrant positive conclusions.

In addition to the systemic use of anticoagulants there is the more local technical application at the surgical site of the incision itself, the idea being to prevent postoperative clotting in the vessel at the suture line. In Italy, Pupini (77, 78) has done considerable research on this phase and has studied experimentally the varying effects of arsenobenzol, hirudin, sodium citrate, heparin, and novirudin. In America, Thurston and Lamb (95) are among the surgeons favoring heparin.

Mechanical Treatment

In 1932 a group of workers in the Department of Surgery of the University of Cincinnati (Reid,

Herrmann, and McGrath, 45, 46, 70, 81), became interested in the construction of a machine designed to improve the circulation of extremities by means of alternate positive and negative pressure. They believed that by such changes of pressure they would be able to promote the collateral circulation of the leg or arm along physiological lines. Considerable experimentation resulted in the construction of the 'Pavaex machine' (PASSive VAScular EXercise) which in certain carefully selected cases has apparently been of definite value. This machine has been employed in practically all vascular complications but especially in peripheral embolism and arterial thrombosis. Herrmann (43) said that up to August 1935, it had been used in the Cincinnati General and the Christian R. Holmes Hospitals nineteen times. Immediate reestablishment of the circulation was brought about in all except the case of a patient suffering from coronary thrombosis in addition to an embolus in a peripheral vessel. The systolic blood pressure is said never to have risen above 70 mm. of mercury. In the case in which the circulation was not reestablished immediately the leg went on to complete mummification before death.

The Pavaex treatment consists in placing the affected extremity in a glass boot and rhythmically alternating the environmental pressure from a negative of about 80 mm. of mercury to a positive of 20 mm. of mercury at an alternation rate of from two to four cycles per minute. Apparently this type of treatment can be continued for an indefinite length of time without causing any special discomfort or untoward effects. Sustained collateral arterial circulation is present after seventy-five hours. The advantages of the Pavaex apparatus are apparent in that its use is free from the stress and shock accompanying surgery.

CASE REPORTS

Recently several fairly extensive case reviews have appeared in the surgical and medical literature. Danz (22) and Pearce (73) have written two that are worthy of special mention and Davies (25) and Belt (81) have published good autopsy summations.

Bullet emboli. For a discussion of bullet emboli which are generally a postmortem finding the reader is referred to the papers of Walcher (98), Paltauf (71) and Baker (6).

Paradoxical emboli. The so-called paradoxical emboli are mentioned in recent articles by Huber (52) and Hirschboeck (48). The latter presents a short review of the history of this rather infrequent type of emboli.

Pulmonary embolism following ophthalmic operations is said to be rare. Wolff (103) cites one case and discusses four others.

PROGNOSIS

The patient subjected to embolectomy is generally a poor risk. Of 796 cases of embolectomy collected by Pearce (1), death resulted in 5 per cent. The high mortality is due undoubtedly to several factors. The age of the patient is generally well beyond the mean life expectancy of fifty-seven years. For example, the average age of Zierold's patients was sixty-five years (105). Moreover, many persons developing an embolus have been incapacitated by a heart condition for weeks or months. The incidence of heart disease in cases of embolism has been reported by Danz and others as about 60 per cent.

Winchester (10) and Danz and Golden (23) have emphasized the danger of multiple recurrent emboli. The difficulties of an early clear-cut diagnosis have been mentioned. Gohrbrandt (36) calls attention to the fact that the patient is often brought to the hospital too late for treatment of any type to be successful.

In cases of postoperative embolism the length of time elapsing before the formation of the embolus is of great importance. Wharton (100) has noted that pulmonary embolism is much more serious if it occurs the first week after operation before the irritation of the anesthetic has subsided and while atelectasis and hypoventilation are still present. The patient is then a poor risk also because he has not recovered his strength.

As has been stated, there are those who advocate immediate intervention and believe that the prognosis is dependent directly upon the time that elapses before treatment is given. In pulmonary embolism this is a matter of minutes or a fraction of a minute. In peripheral embolism, death is soon to be expected unless therapy is instituted before from six to eight hours (Pearce). These facts are recognized even by the conservative school. Although Bergendal stresses that cases of arterial emboli of the upper extremity are not so likely to require operation as cases of arterial emboli of the lower extremity, he admits that postponement of operation may be dangerous in both groups.

X-ray examination. Crawford (19) calls attention to the fact that the heart outline should be watched during embolic attacks. If a change of the right side and enlargement are revealed by either the shadow or the percussion note the prognosis is grave whereas if this condition clears up the outlook is more favorable.

CONCLUSIONS

A review of the literature of the last three years on embolism and thrombosis shows that a tremendous amount of detail has been reported within that period. However, it is evident that some of the recorded results are conflicting and that there is need for adequate verification along many lines. Technical surgery *per se* has not appreciably advanced in the last three years, but considerable progress has been made in "mechanical therapy," viz., passive vascular exercises. The use of new drugs such as campolon and sympatol appears to be of some prophylactic value.

BIBLIOGRAPHY

- 1 ABBELOOS, H. Localisation des embolies artérielles par l'artériographie. *J de chir et ann Soc belge de chir*, 1933, 32-30. 99-102
- 2 ALBERT, F. Les obliterations artérielles. *Lyon chir*, 1932, 29. 649-682
- 3 ANDREWS, E., and HARKINS, H. Embolectomy. Report of a case involving the femoral artery. *Ann Surg*, 1932, 96. 40-43
- 4 AVERBUCK, S. H. The differentiation of acute coronary artery thrombosis from pulmonary embolization. *Am J M Sc*, 1934, 187. 391-401
- 5 BADGLEY, C. E., and SMITH, F. J. Pulmonary infarction and pulmonary embolism in orthopedic surgery. *J Am M Ass*, 1932, 98. 467-473
- 6 BAKER, R. D. Bullet embolism. *Am J Surg*, 1935, 29. 282
- 7 BANCROFT, F. W., and STANLEY-BROWN, M. Post-operative thrombosis, thrombophlebitis, and embolism. *Surg, Gynec & Obst*, 1932, 54. 898-906
- 8 BELL, T. H. Thrombosis and pulmonary embolism. *Am J Path*, 1934, 10. 129-144
- 9 Idem. Pulmonary embolism. *Canadian M Ass J*, 1934, 30. 253-255
- 10 BENZADON, J. Consideraciones sobre un caso de obliteración arterial. *Rev méd d Rosario*, 1934, 24. 266-269
- 11 BERGENDAL, S. Contribution to the question of the peripheral emboli. *Acta chirurg Scand*, 1934, 74. 248-261
- 12 BOEREMA, I. Embolektomie aus der Arteria poplitea. *Nederl Tydschr v Geneesk*, 1933, 121-1286
- 13 BROCK, R. C. Postoperative venous thrombosis and the platelet count. *Lancet*, 1933, 1. 688-690
- 14 BRUST, R. W. Embolism of the peripheral arteries. *J Am M Ass*, 1934, 102. 2172-2173
- 15 BSTEK, O., and TEICHMANN, M. Faele von Lungenembolie nach Injektionsbehandlung von Varikositäten. *Zentralbl f Chir*, 1933, 60. 376-378
- 16 BUNÉ, J. M. Die Anwendung des Rehnischen Handgriffes bei der Embolektomie der Arteria pulmonalis. *Beitr z klin Chir*, 1932, 136. 181-186
- 17 CAPDEVILA, J. G. Trombo-embolia de la arteria pulmonar y su tratamiento quirúrgico. Estado actual del problema. *Clin y lab*, 1934, 19. 85
- 18 CONTIADIS, X. J., and NAULLEAU, J. Quelques résultats de l'artériographie dans les affections artérielles et les tumeurs. *Presse méd*, Par, 1934, 42. 1866-1870
- 19 CRAFOORD, C. Trendelenburgsche Operation. *Svensk Laekar*, 1933, p. 227
- 20 CUTLER, E. C. Pulmonary embolectomy. *New England J. Med*, 1934, 209. 1265-1266
- 21 DANIELS, A. Zur Verhuetung der Thromboembolie. *Zentralbl f Chir*, 1933, 60. 1781-1788
- 22 DANZIS, M. Arterial embolectomy. *Ann Surg*, 1933, 98. 249-272, 422-437
- 23 DANZIS, M., and GOLDEN, C. H. Right axillary embolectomy. *J Am M Ass*, 1934, 102. 1926-1929
- 24 DAVIDSON, C. L. Twisted ovarian cyst. A procedure to prevent fatality from embolism. *Am J Surg*, 1935, 27. 79
- 25 DAVIES, G. F. S. Pulmonary embolism. *Med J Australia*, 1935, 1. 171-178
- 26 DENK, W. Zur Behandlung der arteriellen Embolie. *Muenchen. med Wchnschr*, 1934, 81. 437-439
- 27 Idem. Anwendung krampfloesender Mittel bei arterieller Embolie. *Zentralbl f Chir*, 1933, 60. 1538-1539
- 28 DICK, W. Zur Lokaldiagnose der Extremitaeten-embolie. *Beitr z klin Chir*, 1933, 158. 481-486
- 29 EPPINGER, H. Thrombose und Embolie. *Wien klin Wchnschr*, 1935, 48. 33-38, 68-72
- 30 ERDMANN, J. F. Postoperative care. *Surg Clin. North Am*, 1932, 12. 269-279
- 31 FARRAR, L. K. P. Postoperative pulmonary embolism. *Ibid*, 1935, 15. 387-395
- 32 FELLER, A. Thrombose und Embolie. *Wien klin Wchnschr*, 1934, 47. 1473-1477
- 33 FREY, S. Die Embolie. 1933. Leipzig, Thieme
- 34 FUEST, A. A rare case of embolism of the femoral artery. *Časop lék česk*, 1934, 73. 236-238, 263-266, 302-304
- 35 GIRODE, MORICARD, R., and BROUET. Embolie de la bifurcation aortique chez un sujet syphilitique porteur d'un anévrisme de l'aorte abdominale. *Ann d'anat path*, 1933, 10. 616-619
- 36 GOHRBRANDT, E. Chirurgische Behandlung der Embolie. *Med Welt*, 1933, 7. 481-483
- 37 GOSSET, A., BERTRAND, I., and PATEL, J. Le traitement des embolies artérielles des membres. *J. de chir*, 1933, 41. 1-19
- 38 Idem. Sur la physio-pathologie des embolies artérielles des membres. *Recherches expérimentales*. *Ann d'anat path*, 1932, 9. 841-862
- 39 GRISWOLD, R. A. On the Trendelenburg operation for pulmonary embolism. *Ann Surg*, 1933, 98. 33-42
- 40 HALL, G. E., and ETTINGER, G. H. An experimental study of pulmonary embolism. *Canadian M. Ass J*, 1933, 28. 357-368
- 41 HAMMAN, L. Sudden death. *Bull Johns Hopkins Hosp*, Balt, 1934, 55. 401-404
- 42 HARKINS, H. N. Embolectomy. A report of two attempts on the same patient. *Ann Surg*, 1934, 99. 555-556
- 43 HERRMANN, L. G. Personal communication, 1935, Aug
- 44 Idem. Syphilitic peripheral vascular diseases. *Am J Syphilis*, 1933, 17. 305-320
- 45 HERRMANN, L. G., and REM, M. R. The conservative treatment of arteriosclerotic peripheral vascular diseases. *Ann Surg*, 1934, 100. 750-760
- 46 Idem. Passive vascular exercises. *Arch Surg*, 1934, 29. 697-704
- 47 HESS, H. Die postoperativen Thromboembolien an der chirurgischen Abteilung der Kranken- und Diakonissenanstalt Neumuenster-Zuerich in den Jahren 1910-30. *Schweiz med Wchnschr*, 1934, 64. 897-902

- 48 HIRSCHBOECK, T J Paradoxical embolism Am J M Sc 1935 189 236-239
- 49 HOLDSWORTH F W Arterial embolotomy An account of two cases Lancet 1934 2 703-704
- 50 HOWANS J Thrombosis of the deep veins of the lower leg causing pulmonary embolism New England J Med 1934 211 993-997
- 51 HOSOR K Pulmonary embolism Ann Surg 1932 95 86-92
- 52 HUBER P Statistisches ueber das Vorkommen von Thrombosen und Embolien an der Chirurgischen Klinik in Innsbruck und der I Chirurgischen Klinik in Wien Arch f klin Chir 1935 182 47-68
- 53 HUNT E L I Postoperative thrombosis and embolism New England J Med 1933 68 730-740
- 54 JEFFERSON G Arterial embolotomy Brit M J 1934 2 1090-1094
- 55 JONA G Stenosi mitralica Embolia dell'arteria femorale sinistra Crisi angio spastiche Arteriectomie Riforma med 1933 49 1233-1237
- 56 KOENIG W Ein Vorschlag zur Vermeidung der post operativen Thrombose und Embolie Deutsche med Wchnschr 1933 59 88-90
- 57 KOHLMAYER H Ein Beitrag zur Frage der Behandlung arterieller Embolien Zentralbl f Chir 1933 60 1698-1705
- 58 KRAUSS F Zur Kasuistik der toedlichen Lungen embolien nach Krampfaderverodung durch Zuckererlosung Ibid 1933 60 2126-2127
- 59 KULENKAMPF D Ueber Schwierigkeiten der Beurteilung bei Emboliekomie Ibid 1933 60 2436-2443
- 60 LANDIS E M and GIBSON J H Jr The effects of alternate suction and pressure on blood flow to the lower extremities J Clin Invest 1933 12 923-961
- 61 LANGERON L VINCENT G LEDOURNEUF and DESORHIER Obliteration embolique de l'artere poplitee arteriectomie amputation ulterieure necessaire radiographies des vaisseaux apris in jection et examen vasculaire de la piece d amputation Arch d mal du coeur 1933 26 437-443
- 62 LARSS G E A case of axillobrachial embolotomy Brit M J 1934 1 616-617
- 63 LICHTENAUER K Zur Chirurgie der arteriellen Embolie der grosseren Blutgefasse an der Extremitaeten 58 Tag d deutsch Ges f Chir Berlin 1934
- 64 MACIAS DE TORRES E Phlebitis et embolies consecutives aux operations gynecologiques Progrès med 1934 pp 1600-1614
- 65 MAROKER H R and OCHSNER A The use of leeches in the treatment of phlebitis and the prevention of pulmonary embolism Ann Surg 1933 98 408-421
- 66 MEYER WILDISEN R Emboliehaufung und Injektionsschaeden Zentralbl f Chir 1932 59 2 63-2200
- 67 NEUDA P Thromboembolie ihre Pathologie und Behandlung Muenchen med Wchnschr 1934 81 1416-1410
- 68 NEUBOF H Embolotomy with partial arterial occlusion for embolism of the extremities Ann Surg 1932 96 44-48
- 69 NYSTROM G Cited by Crafoord C Svensk Laekar 1933 p 227
- 70 OVERHOLT R H and VFAJ J R Difficulties in differentiation of postoperative pulmonary complications Surg Clin North Am 1932 12 655-672
- 71 PALTAPF R Geschossembole der Arteria pulmonalis Wien Klin Wchnschr, 1933 46 602
- 72 PAZZAGLI R Sull'embolotomia arteriosa Clin chir 1935 11 49-50
- 73 PEARSE H E JR Embolotomy for arterial embolism of the extremities Ann Surg 1933 95 17-32
- 74 POLAK I Anatomische und experimentelle Grund lagen der Trendelenburgschen Operation Polski Przegl chir 1933 12 785-790
- 75 IDEM I Embolotomia arteria pulmonalis Sborn Jk 1934 35 1-116
- 76 PORTIS B and ROTH H A Embolotomy of the peripheral arteries Report of three cases J Am M Ass 1933 101 1550-1558
- 77 PUTIN G Anticoagulant(e) sutura vassale Arch ital di chir 1932 32 661-723
- 78 IDEM C Erinnerungsbildernde Substanzen und Gefaessnaht Zentralbl f Chir 1932 59 2126-2130
- 79 REID M R The diagnosis and treatment of peripheral vascular diseases Am J Surg 1934 24 11-35
- 80 IDEM Case report of thrombophlebitis of axillary veins Ibid 1934 24 699-707
- 81 IDEM Recent advances in the treatment of peripheral vascular diseases Ohio State M J 1935 31 577-582
- 82 REMENOVSKY F Zur Kasuistik der toedlichen Lungenembolien nach Krampfaderverodung durch Zuckererlosung Zentralbl f Chir 1933 60 2710-2722
- 83 RIMINI R Studi sperimentali sulle alterazioni della parete arteriosa dopo embolotomia Polichin Rome 1932 39 sez chir 490-497
- 84 ROBERTSON H E Pulmonary embolism following surgical operation Am J Surg 1934 26 15-18
- 85 RONDE C Embolotomie aus der Arteria femoralis bei embolischem Verschluss der Arteria iliaca communis Zentralbl f Chir 1933 60 1533-1536
- 86 ROMHE W Ueber die Haefungkeit von Thrombosen und Embolien im Goettinger Sektions- und nach dem Kriege Ztschr f Kreislaufforsch 1933 25 171-178
- 87 ROSENTHAL S R Thrombosis and fatal pulmonary embolism Arch Path 1932 14 215-237
- 88 ROUX BERGER J L CONTIADÈ F J and MACLEAD J Embolies successives des deux artères iliaques primitives localisées par l'aortographie et traitées par artériectomies Thrombose aortique Bull et mém Soc nat de chir 1934 60 285-294
- 89 IDEM Embolies successives des deux artères iliaques primitives localisées par l'aortographie et traitées par artériectomies Thrombose aortique Echec Mort Ibid 1934 60 284-294
- 90 SCHMIEDER F Wettereinfluss auf den Eintritt von Embolien und den Durchbruch von Magen- schweren Deutsche Ztschr f Chir 1933 239 107-126
- 91 SCHMIDT R Erfolgreiche Operation bei reitendem Embolus auf der Aortenbifurkation 57 Tag d deutsch Ges f Chir Berlin 1933 Also Zentralbl f Chir 1933 60 1509-1510
- 92 SCOTT V J M Some practical problems in the handling of peripheral arterial disease New York State J M 1934 34 269-273
- 93 SILEO J A Prevention of postoperative thrombosis thrombophlebitis and embolism J Am Int Homeop 1935 28 80-82
- 94 SISE L F Postoperative pulmonary complications a comparison of the effect of spinal and of ether

- anesthesia Surg Clin North Am, 1932, 12 649-654
- 95 THURSTON, H F, and LAMB, E B Circular suture of blood vessels Arch Surg, 1933, 27 786-800
- 96 VANCE, B M Thrombosis of the veins of the lower extremity and pulmonary embolism occurring as a complication of trauma Am J Surg, 1934, 26 19-26
- 97 VIGYÁZÓ, J Massnahmen zur Herabsetzung der Thrombo-emboliegefahr nach Vorexoperationen Zentralbl f Chir, 1932, 59 2681-2684
- 98 WALCHER, K Ueber embolische Verschleppung von Floberthugeln Ibid, 1932, 59 1220-1225
- 99 WEISS, H, and STROOMANN, G Geheilter Fall von arterieller Embolie (arteria femoralis) Ztschr f aeztl Fortbild, 1932, 29 638-639
- 100 WHARTON, L R. Postoperative pulmonary embolism Internat Clin, 1935, 1: 198-215
- 101 WHITE, J C Discussion of paper on pulmonary embolism by Elliott C Cutler New England J Med, 1934, 209 1266
- 102 WINCHESTER, A H Embolic gangrene of both legs associated with auricular fibrillation Brit M J, 1933, 1 271
- 103 WOLFF, E Pulmonary embolism following ophthalmic operations Tr Ophth Soc U. Kingdom, 1934, 54 275-281
- 104 WYMER, I Die Emboliegefahr bei kuenstlicher Varizenveroeidung Muenchen med Wchnschr, 1932, 79 1969-1970
- 105 ZIEROLD, A A The surgical treatment of arterial embolism J Am M Ass, 1933, 101. 7-9

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Gurdjian E S. The Management of Depressed Fractures of the Skull and Old Skull Defects
Ann Surg 1935 101 89

For acute cases of depressed fracture of the skull one of the following four procedures may be used

1 Removal of the area of depression. This the most commonly employed method often results in defects that later require further operative procedures for esthetic purposes particularly when they are located in the forehead

2 Elevation of the depression by means of a bone elevator passed under the area of depression through a small opening to one side of the defect. This is of great advantage in the cases of children but in the cases of adults in which the inner table is so often shattered it is frequently hazardous

3 Mass removal of the area of depression including a strip of normal bone surrounding it and replacement of the bone flap after elevation of the depression. This gives good esthetic results allows inspection of the dura and if necessary incision of the latter for examination of its contents. Two methods are employed the osteoplastic flap method and use of the trephine. If the depression is larger than the circumference of the trephine the button of bone removed should include a portion of normal skull. The remainder of the depression should then be carefully elevated and the button of bone replaced.

4 When the area of depression is beyond repair or pieces of bone have to be discarded because of contamination repair of the defect with a transplant from the outer layer of the skull. The transplantation is very simple if the defect is no larger than the size of the trephine. In some instances because of the danger of infection it is impossible to do all that is desired. This is true particularly in compound fractures of the frontal sinus region and the roof of the orbit. All foreign bodies should be removed along with free pieces of contaminated bone. It is usually necessary to pack the wound.

In the author's clinic it is the policy not to disturb simple depressions without symptoms.

The indications for the repair of old defects are better esthetic results and the alleviation of head ache and dizziness. Gurdjian prefers autogenous osteoperiosteal transplants. In the procedure he follows the defect is thoroughly exposed by appropriate incisions and the contour freshened by rongeur away a thin strip of bone. Through the same incision or another an area of bone is then exposed and upon it the area of the defect is marked and the

periosteum incised about 1 cm beyond the outline. The periosteum is then puckered toward the center of the flap the bone cut down to the diploe with the rotary saw, and the transplant chiseled out and placed in the defect. JOHN WILSON E. TON M.D.

Mondor H and Gauthier Villars P. Tuberculosis of the Submaxillary Gland (Tuberculose de la glande sous maxillaire). *Presse med* Par 1935 43 897

Tuberculosis of the parotid and submaxillary glands is very rare. In a review of the literature the authors were able to find records of only four cases of primary tuberculosis of the submaxillary gland which they consider authentic. To these they add a case coming under their own observation.

Their patient was a man fifty years old who had had a diffuse swelling of the right submaxillary gland for six or seven years. He had consulted the authors several times, thinking it was a tumor possibly malignant but had been assured that it was an ordinary inflammation probably due to lithiasis. The gland had become twice its normal size and indurated but had caused pain and functional disturbances only during the past few weeks. Recently it had become rapidly so large as to be disfiguring and the patient had noticed rhythmical variations in its size and painful tension when he ate. In spite of the absence of roentgen signs the authors made a diagnosis of salivary colic from lithiasis with cyst like dilatation during deglutition.

Operation disclosed no signs of malignancy or a mixed tumor. The gland was three times its normal size and uniformly hard. It presented no evidences of abscess formation. Its enucleation was accomplished easily. While grossly it appeared almost normal histological examination disclosed typical young tubercle follicles with caseated centers containing giant cells and surrounded by characteristic epithelioid cells and lymphocytes. The tubercles were strictly intralobular and did not affect the capsule or the connective tissue sheaths of the large excretory ducts. The intact state of the excretory ducts apparently ruled out ascending infection.

The results of attempts to infect the salivary glands of animals with tuberculosis have been contradictory. Some investigators have failed to obtain any results at all while others have claimed successful results from the use of various routes. The most recent attempts were made by Lucchese in 1933. Lucchese's results support the theory of Lecene that the process is spread by the intraglandular lymphatics.

AUDREY GOSS MORGAN M.D.

EYE

Reese, A. B.: Exophthalmos. Ocular Complications; Causes from Primary Lesions in the Orbit; Surgical Treatment. *Arch Ophthalm*, 1935, 14 41

The author states that one of the most frequent complications resulting from exophthalmos is an ulcer due to the exposure of the cornea. Pressure or inflammation around the optic nerve often causes papilledema and later atrophy. The same factors may cause thrombosis of the central retinal vein. An orbital tumor may push the scleral wall in as well as the eyeball out and may suggest a flat detachment of the retina. Acquired tissue around the globe, whether neoplastic or inflammatory, may produce glaucoma.

Orbital tumors usually cause some amblyopia and not infrequently amaurosis due to pressure on the optic nerve. Stretching of the optic nerve by exophthalmos does not seem to be an important factor. Other causes of impairment of vision are hyperopia and hyperopic astigmatism produced by indentation of the sclera.

Primary tumors of the orbit which are benign histologically may be locally malignant in that their slow growth may impair the function of the eye or reach the brain. In this group are hemangiomas, gliomas of the optic nerve, meningiomas of the optic nerve sheath, and mixed tumors of the lachrymal gland, all of which grow slowly. Hemangioma, the most common primary tumor of the orbit, is the most satisfactory to treat because it is usually encapsulated and radium-sensitive. It is probably entirely congenital in origin. Two important characteristics of this tumor are its failure to affect the motility of the eye and variations in its size with variations in the degree of the exophthalmos.

The large majority of newgrowths of the lachrymal gland are mixed tumors. Pure carcinoma is extremely rare, and sarcoma has never been reported. Mixed tumors are congenital although they manifest themselves at the average age of forty. Mixed tumors are not benign. Neither are they just locally malignant as 7 per cent form distal metastases.

All primary intraneural tumors of the optic nerve are gliomas found in children during the first decade of life. Vision is usually affected before the exophthalmos appears. The neoplasms increase in size by causing proliferation of pre-existing neuroglia in the vicinity. Extranural tumors of the optic nerve or meningiomas have the same histological picture as tumors found in the meninges. They are prone to produce changes in the contiguous bone. They become encapsulated and the capsule tends to adhere to the surrounding structures.

Sarcoma of the orbit may arise from connective tissue, muscle, nerve, periosteum, fat, or lymphocytes. In a series of cases cited the course was rapidly fatal whether the treatment was irradiation, operation, or both. It is usually said that the younger the patient the more malignant the tumor.

Of the primary orbital cysts, the congenital coloboma cyst and retinocoele are the most interesting. In determining whether or not a newgrowth causes the exophthalmos, the presence of an anomalous condition of the disk, iris, or other structures is of importance.

Primary tumors and pseudotumors can simulate each other in every detail. The most important facts of aid in the differentiation of a pseudotumor from a true tumor are:

1. Primary tumors of the orbit occur most frequently in the first decade of life and rarely after the second decade. The average age at which pseudotumors appear is forty-five years.

2. In cases of primary tumor the onset of the exophthalmos is insidious and gradual. In cases of pseudotumor it is relatively sudden, usually occurring in several weeks.

3. Primary tumors of the orbit are never bilateral. Pseudotumors affect both eyes in one-third of the cases, but the second eye becomes involved from four to nine months after the first eye.

4. Primary, as well as secondary, tumors in the orbit not infrequently cause roentgen changes in the orbital bones, whereas pseudotumors characteristically do not.

5. Primary tumors usually cause no pain and no swelling of the conjunctiva or the lids. In one-half of the cases, pseudotumors give rise to some pain and some edema around the eye.

The etiology of pseudotumor is not known. A high degree of myopia may produce prominence of the eye which, if unilateral, may be misleading. Paralysis of one or more of the rectus muscles or tenotomy of a rectus muscle may result in exophthalmos of from 2 to 3 mm.

In cases of exophthalmos operation may be indicated for cosmetic purposes, for protection of the cornea, for the removal of a tumor, or for the relief of pain.

In cases in which the newgrowth is extensive or diffuse and those in which it cannot or should not be locally extirpated, exenteration is indicated. If a Thiersch graft is placed in the orbit at the time of the exenteration it will adhere readily and a week after the operation the orbit will be clean, free from discharge, and odorless.

Tumors which have extended to the orbit secondarily from the sinuses, nasopharynx, or elsewhere may cause severe pain which can often be relieved by exenteration.

LESLIE L. MCCOY, M.D.

Fewell, A. G., and Fry, W. E.: Bilateral Retinal Glioma Treated by Radiation. A Clinical and Histological Report. *Arch Ophthalm*, 1935, 14 190.

Present opinion seems to indicate that in cases of bilateral glioma of the retina in which one eye retains useful vision and ophthalmoscopic examination shows that its optic nerve is probably not involved, the treatment should be enucleation of the most involved eye and irradiation of the eye retaining vision.

The authors report a case of gloma of the right eye and a smaller tumor of the left eye. The right eye was enucleated and the left eye treated by roentgen irradiation. The lesion in the left eye at first regressed but later the entire vitreous became filled and enucleation of that eye also became necessary.

VIRGIL WESCOTT, M.D.

Levine J. Primary Melanosarcoma of the Optic Disk. *Arch Ophth* 1935 14 329

The case reported was that of a man fifty three years old who, eighteen months before consulting the author, had had a pigmented mole excised from the right thigh. Vision was corrected to normal in both eyes but in the right eye there was a bluish protrusion into the vitreous from the upper temporal portion of the optic disk. Examination of the eye following its enucleation disclosed a blue black spot in the cut end of the optic nerve and a densely pigmented mass occupying the upper half of the disk. The author believes that the tumor had its origin in a melanoma.

VIRGIL WESCOTT, M.D.

EAR

Myerson M. C. and Rubin H. W. and Gilbert J. G. Considerations on Suppuration of the Petrous Pyramid. *Arch Otolaryngol* 1935 22 63

The authors review fifty three cases of fistula collected from the literature in which the condition was studied at operation or autopsy. The fistulas were located at nine different sites in the middle ear and mastoid cavity. The cases are tabulated according to location of the fistulas. In six cases there were multiple fistulas and in nine there was a retropharyngeal abscess which drained an empyema of the petrous apex.

The authors report eight cases, six of which terminated in recovery.

An attempt has been made to simplify and clarify the indications for surgical intervention and a plan of attack is presented.

JAMES C. BRASWELL, M.D.

NOSE AND SINUSES

Burnham H. II. An Anatomical Investigation of the Blood Vessels of the Lateral Nasal Wall and Their Relation to the Turbinates and Sinuses. *J Laryngol & Otol* 1935 50 569

The author states that three large bony canals are present in the posterior three fifths of the inferior turbinate bone. Therefore this part of the bone should not be removed surgically without the most serious consideration. The two lower canals aid in draining the inferior turbinate and atrium areas of venous blood and are the principal venous pathways carrying blood to the sphenopalatine foramen from this area. Along the junction of the turbinate with the lateral nasal wall is the canal for an important tract of antral vessels.

These three large bony canals of the inferior turbinate are so placed on the large venous pathways

that a considerable narrowing of the blood stream takes place at their entrance in the central one fifth of the inferior turbinate. This bottle neck constriction is just posterior to many of the connections between the periosal veins and erectile tissue which must drain through it. When fully dilated, the erectile (cavernous) tissue contains a large volume of blood and as it is comparatively superficial extremely sensitive to external stimuli and subject to rapid contraction. The bottle neck constriction may be the cause of a considerable hindrance to the circulation with important sequelae.

It is well known that hypersensitive areas are often found in the mucosa of the lateral nasal wall. These tender spots, as they are often called, correspond to the bony canal openings described. The tenderness can be relieved by the application of ephedrine. This results in contraction of the erectile tissue and at least temporary relief of the circulatory embarrassment.

JAMES C. BRASWELL, M.D.

Williams H. L. Intranasal Operation for Chronic Maxillary Sinusitis. End Results in 200 Cases in Which the Principles of Kuester Were Employed. *J Am M Ass* 1935 105 96

Kuester published his fundamental article "The Basic Principles of the Treatment of Suppuration in Rigid Walled Cavities" in 1889. He took the maxillary sinus as an example of a completely rigid walled cavity with a lining of mucous membrane. He established as his principles of treatment an opening into the sinus large enough to allow inspection of the interior and the removal of diseased portions of the membrane, polypi and sequestra and the establishment of a permanent fistula to afford unobstructed drainage. It is on these principles that all later sinus surgery has been based. Kuester chose as his route of approach the canine fossa, making an opening from the pyriform process to the region of the first molar and maintaining the patency of the opening by suturing the mucous membrane of the antrum to the mucous membrane of the gingivobuccal groove.

In 1893 Caldwell because of the extreme difficulty encountered in preventing re-infection of the antrum through the mouth in the presence of a permanent fistula in the canine fossa, opened the antrum through the canine fossa, removed diseased tissue as advocated by Kuester and then made a permanent counter opening into the inferior meatus and allowed the opening in the canine fossa to heal. Because this method of surgical treatment met the requirements of Kuester without the disadvantage of a permanent fistula into the mouth and because it combined the advantage of a physiologically normal pathway of discharge as advocated by Mikulicz, it gained immediate favor and almost supplanted all other methods of surgical treatment of suppurative disease of the maxillary sinus. The Mikulicz operation was relegated to the position of an accessory procedure to lavage of the thick walled antrum because adequate exposure to remove diseased tissue and a permanent

opening for drainage were not secured by the original technique

Luc, in 1897, described a similar technique which has caused his name to be linked with Caldwell's although his article was not published until several years after Caldwell's contribution

In 1927 Hempstead described a technique of approach through the inferior meatus that met the requirements of Kuester without sacrificing any of the functioning tissue of the nose and avoided the more troublesome approach through the canine fossa. In this procedure the inferior turbinate was fractured upward so as to expose freely the lateral wall beneath it and an opening then made into the antrum large enough to permit easy inspection of all the lining membrane except that of the anterior wall. The latter area could be inspected with the aid of a mirror. Any grossly diseased tissue was removed with a curette. The after-care was by the dry method. This technique was used in the cases reviewed by the author

The 2 methods which meet the surgical requirements of Kuester are the Caldwell technique and Hempstead's modification of the Mikulicz technique. As the exposure in the Caldwell technique is without question somewhat superior, this approach is reserved for cases in which malignancy is suspected, those with evidence of sequestration, and the small percentage in which sufficiently good removal of diseased tissue has not been accomplished by the intranasal operation. As the Mikulicz technique permits quicker operation and ease of approach with avoidance of the postoperative neuralgia sometimes associated with disturbance of the infra-orbital nerve, as it requires less prolonged hospitalization; and as it yields equally good results, it has been adopted at the Mayo Clinic as the routine technique

For this report 200 consecutive cases of chronic suppurative disease of the maxillary sinus operated upon by various members of the staff during the year 1926 were selected because the time that has elapsed since the operations should be sufficient to show whether any good results obtained were permanent. In all of the cases the symptoms had been present for a year or more. Although only a small percentage of the patients were studied for specific hypersensitiveness, this condition was almost eliminated by confining consideration to cases in which the maxillary sinus alone was involved

Of 123 patients followed up by questionnaire, only 19 (15.4 per cent) reported unsatisfactory results. Of the total number followed up, 84.6 per cent had received complete symptomatic relief

In 7 of the cases in which the results were unsatisfactory the failure of the treatment was probably due to an unrecognized specific hypersensitiveness. In 4 cases bronchiectasis was present. Although this number is too small to warrant conclusions, the author suggests that bronchiectasis may be a factor producing the sinusitis rather than a sequela of the latter condition. In 1 case, postoperative osteomyelitis of the maxilla, and in another, postoperative

sphenoiditis prevented a good result. In 6 cases closure of the intranasal window resulted in failure. In 4 cases in which the patient's reply did not furnish sufficient data for conclusions the failure of the treatment was probably due to the same cause. In 2 cases misdirected therapeutic efforts were directly responsible for persistence of the symptoms. In 2 others, inadequate investigation failed to reveal the presence of a frontal sinusitis which maintained the infection in the antrum. In 2 cases, failure to close the fistula from the alveolus to the antrum was apparently the cause of the difficulty, and in 1 case in which bilateral intranasal windows failed to relieve the nasal symptoms, bilateral Caldwell-Luc operations performed elsewhere relieved the symptoms and apparently caused marked improvement in the arthritis from which the patient suffered

Williams draws the following conclusions:

- 1 The surgical principles laid down by Kuester are sound and accomplish the desired result
- 2 Hempstead's modification of the Mikulicz and Caldwell operations meets these requirements
- 3 Failure to remove the mucoperiosteal lining of the sinus does not militate against a good result
- 4 Good results of the operation depend on securing an adequate and permanent opening for drainage and on removal of diseased membrane
- 5 Poor results are caused by failure to secure adequate drainage, incomplete investigation, failure in diagnosis, and poor selection of cases
- 6 As was evidenced by this study of 200 cases, cure can be obtained by intranasal operation in about 80 per cent of cases of chronic maxillary sinusitis
- 7 It is therefore apparent that the intranasal operation usually gives such satisfactory results that, except in exceptional cases, it should be the operation of choice

MOUTH

Veau, V.: *The Clinical Forms of Unilateral Harelip* (Die klinischen Formen der einseitigen Hasenscharte). *Deutsche Zeitschr f Chir*, 1935, 244: 595

Of a series of 1,000 harelips, 749 were unilateral and 273 were simple. Of the 251 bilateral harelips, 72 were simple. In 502 of the unilateral harelips reviewed in this article, the deformity was on the left side. Veau distinguishes the following types of unilateral simple harelip:

1. Labial scars in which the cleft does not extend beyond the vermilion border, the alæ nasi are usually not symmetrical, and muscular defects are generally present
2. Clefts extending into the skin zone. Above the cleft a deep groove extends to the nostril and the vermilion border rises higher. Behind a fold of mucous membrane at the lateral incisor there is a groove in the bone. The nostril is always widened
3. Clefts which reach the nostril where the musculature is usually completely lacking. The nostril is usually greatly deformed, and the maxilla regularly cleft. Often there is a dislocation of the intermaxilla in front of the alveolar ridge

Total unilateral harelip is present when the lip, alveolar process, and palate are cleft. It may be present also when the palate is intact but a cleft of the lip and division of the alveolar process are always found. Transition from the simple to the total cleft is exemplified by the cases with a bridge which are very common. The soft part bridges, which extend from the upper outer edge of the cleft to the intermaxilla are never connected with the mucocutaneous edge of the latter but end on the inner lip. They vary greatly in breadth and thickness and may disappear into a fine filament which eventually tears secondarily leaving a small excrescence. From these formations the author concludes that harelip represents the completion of a certain development in which forces arise in the inner parts gradually increase and complete the malformation. Therefore it is not merely a matter of arrested development. Fleischmann is perhaps right in assuming an insufficiency of the mesoderm induced by an epithelial barrier.

As interesting and surgically important associated changes Veau mentions incurvature of the nose which was observed by him in 8 cases (in 3 without harelip) atrophy of the intermaxilla and scars of the opposite side which were observed by him in 30 cases and always require operation as for bilateral harelip. The description is intended to demonstrate that harelip is a teratological entity showing variations based on the same teratological occurrences but different secondary factors (STEVENS) (V BURRELL) THOMAS W STEVENSON M D

Vaheri E. So Called Mixed Tumors of the Upper Lip (Ueber sogenannte Mischgeschwulste der Oberlippe) *Acta chirurg Scand* 1935, 76 577

The author reports a typical so called mixed tumor of the upper lip which was examined histologically. The growth and a mucous gland of the lip were surrounded by a common capsule of connective tissue. They were separated only by an intervening wall of connective tissue which at one place was strikingly thin. In the capsular layer were found among other inflammatory cells a relatively large number of giant cells the numerous nuclei of which were in the periphery of the cell. In the author's opinion, the origin of so called mixed tumors of the lip is to be found in the mucous glands of the lip.

In a review of the literature Vaheri collected forty three cases of so-called mixed tumors of the lip. He cites the various regions of the body in which mixed tumors have been found.

Axhausen G. The Results in Cleft Palates Operated upon Unsuccessfully (Operationsergebnisse bei erfolglos operierten Gaumenspalten) 59 *Tage d. deutsch. Ges. f. Chir.* Berlin 1935

Every cleft palate is anatomically and functionally capable of being operated upon successfully by modern surgical and prosthetic technique provided active palate musculature is present which is fortunately almost always the case. The breadth of the cleft the

formation of scars, the shrinkage of the mucous membrane, and the retraction of the soft palate are no longer of decisive importance.

In the untouched cleft palate a completely successful result can be obtained in every case at the first operative intervention, so great is the certainty afforded by wide freeing of the soft parts from the underlying bone and muscle its relaxation by the lateral tamponade at the soft palate, the double row of sutures at the hard palate, the triple row at the soft palate, and the celluloid plates which protect and give support. A velum which is somewhat too short can always be given the required length by plastic lengthening or by freeing over the palatal arch. With the basic use of local anesthesia there is no longer any mortality.

The same technique is successful also in cleft palates previously operated upon unsuccessfully if sufficient mucous membrane is still present. Especially the lengthening of short and scarred velum can be accomplished in this way. Under these more difficult conditions there may occur a small opening which may require subsequent treatment if it does not close spontaneously. In complicated cases in which the amount of mucous membrane is insufficient it is always possible after freeing the soft palate laterally and completely separating it from the hard palate to place it in the correct position near the posterior pharyngeal wall. The large anterior defect may then be closed with the help of a long skin flap. In all of the author's six cases this plastic operation was successful (AXHAUSEN) (V BURRELL) THOMAS W STEVENSON, M D

Watson W L. Adenocarcinoma of the Oral Cavity *Am J Roentgenol* 1935 34 53

Intra-oral adenocarcinomas constitute a definite group with typical pathological and clinical characteristics which entitle them to a separate classification among intra oral neoplasms.

The author reports a study of forty one cases of intra-oral adenocarcinoma from the clinical point of view.

Intra-oral adenocarcinomas usually develop from the minor salivary glands of the oral cavity but may arise from aberrant thyroid tissue or from mucous glands.

A study of sections from a large number of these glandular tumors showed that classification into definite groups is impossible. However while the micropathological structure is only fairly constant the gross appearance is diagnostic. The tumors are round or oval. The average size of the oval tumors is about 3 by 2 cm. Their greatest diameter is from before backward. The neoplasms may be slightly lobulated but are usually smooth. They are covered by an adherent, slightly thickened intact mucous membrane. In some cases the covering epithelium may be somewhat thinned out and show prominent capillaries running superficially through it. Ulceration of the mucous membrane may occur. It usually appears first at the apex of the mound like swelling

If there has been no previous surgical interference, it is always due to pressure necrosis from the tumor growth.

On palpation, the growths are usually found to be firmly elastic, but occasionally a sense of fluctuation may be elicited. The latter may lead the physician to attempt incision and drainage. Deep fixation to underlying structures is the rule. Lesions of the palate are apt to be pale, shiny, and reddish-yellow while those arising at the base of the tongue are more likely to be of a deeper red and to present a granular appearance. Encapsulation is often more apparent than real.

In ten fatal cases the average period of survival after the onset of the symptoms was seven years and the average period of survival after the patient's admission to the clinic was three and eight-tenths years.

JOSEPH K. NARAT, M.D.

Albright, H. L.: *Carcinoma of the Mouth, with Special Reference to Treatment. Radiology*, 1935, 25, 24.

Cancer of the mouth ranks second in frequency to cancer of the breast and uterus. While it is among the most readily recognized and accessible cancers, it has a high mortality. It shows a tendency toward early disintegration, infection, and regional spread. Enlargement of cervical nodes is present in the majority of cases when they first come under observation.

The author briefly reviews the treatment of the condition from the earliest recorded cases to the present time. Since 1900 there have been many changes in the treatment due mainly to the introduction of the roentgen rays and radium.

In the irradiation therapy of intra-oral cancer since 1910 there has been a constantly increasing tendency toward the intra-tumoral application of radio-active substances. Since Martin, Quimby, and Pack reported in 1931 that the minimal lethal dose required for the successful treatment of intra-oral cancer in fifty-six cases was from 7 to 10 skin erythema doses delivered in from ten to twenty days the unsatisfactory results of external irradiation have been more clearly understood. The intensity of the oral tumor dosage from an external source rarely reaches 2 S.E.D. and never exceeds 3 S.E.D. without causing serious damage and often death.

The pathological anatomy of malignant tumors of the mouth is discussed in detail. More than 90 per cent of such tumors are epidermoid carcinomas, most of which are of the adult differentiated type. The author describes lesions of the lip, tongue, floor of the mouth, gums, jaws, cheek, palate, and tonsils and traces the chief metastatic paths to the neck of each type of lesion. He discusses also less common types of malignancy such as sarcoma, lymphosarcoma, nerve-cell tumors, transitional-cell epithelioma, lympho-epithelioma, carcinoma of cylindrical-cell origin, mixed tumors, epulis, and adamantinoma.

With regard to the cause of oral malignancy he discusses associated factors which seem to in-

fluence the appearance and course of the disease, such as syphilis, the use of tobacco and alcohol, leukoplakia, defects of the teeth, mouth infection and heredity.

The diagnosis is usually based on the findings of biopsy. The lesion is usually a hard indurated ulcer, but may be papillary and nodular. In the differential diagnosis ulcerations due to leukemia, agranulocytosis, tuberculosis, and actinomycosis must be ruled out.

The degree of malignancy generally increases from the lip to the pharynx. Spread of the disease occurs by direct extension, chiefly by regional metastasis by embolic dissemination of the tumor cells through the lymph channels. The clinical course is usually progressive. The average survival is two years, but in cases of cancer of the lip is somewhat longer.

At the present time the treatment of intra-oral malignancy consists of surgery (electrosurgery) or irradiation, or both. Irradiation is being used more and more frequently. For the destruction of intra-oral tumors reliance is placed largely on the caustic rather than the selective action of radium. The author describes the irradiation reaction. This is determined largely by the reaction of normal tissue and of the tumor bed and the direct action of the irradiation on the tumor cells. Adequate dosage at one sitting or within a single short period is of prime importance as the lesions seem to acquire added radio-resistance to successive exposures at long intervals.

Approved procedures and technique for the treatment of lesions of the lips, tongue, floor of the mouth, gums, jaws, cheeks, palate, and tonsils are described in detail.

In every case early treatment of the cervical lymphatic areas is imperative however effective the primary cure. Once metastases have developed in the neck nodes, the chance for cure by any treatment is practically lost. Prophylactic treatment of the neck areas is therefore of great importance. Years of experience have shown that prophylactic external irradiation is uncertain and should be used only in combination with surgery. For the best results reliance must usually be placed chiefly on early dissection of the neck areas *en bloc* before the nodes are involved.

In discussing the prognosis, the author states that grading of tumors is of value especially in determining group prognosis. MacCarty's list of other factors which must be considered is cited.

Some of the conclusions drawn by the author are as follows.

1. Early diagnosis will improve the results more than any other single factor.
2. The treatment of choice for the primary lesion in all cases in which it has extended beyond the possibility of easy operative removal is radium irradiation.
3. To be reliably effective intratumoral radium irradiation must be of epidermicidal intensity,

whether it is given over a short or long period. In this form it is the best caustic ever discovered for cancer.

4 All cures of cancer of the tonsil have been obtained from irradiation. In this condition radium must be employed rigorously.

5 In the treatment of the cervical lymphatic areas irradiation is uncertain. It should be used only in combination with surgery, which should be early and radical. The danger of waiting until the nodes become involved is too great.

6 Better management of the individual case will result from co-operation of the surgeon and radiologist rather than from the treatment given by either alone.

An extensive bibliography is appended.

ADOLPH HEARTUNG M.D.

NECK

Voss O. Contributions on the Clinical Characteristics of Basedow's Disease (Beiträge zur Klinik des Morbus Basedow). Deutsche Zeitschrift für Chirurgie 1934 244:1.

Is Basedow's disease a hyperthyroidism or a dysthyroidism? In other words, is thyroid secretion in this condition merely increased or is it changed in character? Voss attempts to answer this question. First he discusses the active constituent of the normal secretion. Formerly the active constituent was believed to be Kendall's thyroxin. Later diiodo-tyrosine was isolated. It is certain that diiodo-tyrosine depresses the action of thyroxin. The rôle of iodine in the body and therefore of the thyroid has been more satisfactorily explained. Iodine-free thyroid secretion is biologically inactive. The iodine content of the normal as well as the pathological thyroid is very inconstant. The normal content of iodine in the blood also varies. However, the findings of investigations carried out by Veit and Sturm demonstrated that in 70 per cent of cases of simple goiter it is decreased while in hyperthyroidism and Basedow's disease it is increased, a fact of importance in the diagnosis of Basedow's disease. Nevertheless this leads us no nearer to the active substance. The latter is the iodothyroglobulin isolated by Oswald. Iodothyroglobulin, a complicated protein body which contains thyroxin and diiodo-tyrosine. In contrast to its components it shows the same activity as the thyroid substance itself in biological studies. With the exception of the iodine content it has always the same percentage chemical composition. In parenchymatous goiters, cystic adenomas and the classical Basedow goiters the iodine content is greatly reduced whereas in colloid goiters it is high. Therefore it depends upon the colloid content.

Wherein lies the difference between simple goiter and Basedow's disease? Is it only a difference in the arrangement of the components? As structural changes in this molecule cannot be demonstrated chemically Voss attempted by spectrographic study to determine whether there are differences in ultra-

violet light absorption. He used five preparations of iodothyroglobulin from normal thyroids, simple goiters and Basedow goiters prepared by Oswald's method slightly modified. He describes the method in detail. With these preparations tadpole feeding tests were made. The preparations from normal thyroids and simple goiters markedly accelerated the metamorphosis of the tadpoles while the preparations from Basedow goiters caused a similar reaction followed by death. Therefore a structural difference of the iodothyroglobulin may be assumed.

Studies with the Zeiss spectrograph were then made. The iodothyroglobulin from normal thyroids and simple goiters showed no difference in contrast to that from the Basedow goiters. These findings demonstrated that Basedow's disease is based on a dysthyreosis. The iodothyroglobulin must be changed in some way in this condition. On the other hand there is a pure hyperthyroidism, a simple increase in secretion such as that produced in Rehn's clinic by the administration of preparations from the anterior lobe of the pituitary gland. Whether this can change into true Basedow's disease remains to be determined.

Differential diagnosis. Histological differences are well known but it must be borne in mind that pathological thyroids also nearly always contain normal tissue mixed with pathological tissue. As typical of Basedow's goiter Kocher cited the disappearance of colloid and the well known epithelial changes. The histological difference between hyperthyreosis and Basedow's disease is characterized by the fact that in the former hypertrophy of the thyroid with abundant colloid is found while in the latter there is a surprising deficiency of colloid with papillary proliferations of the epithelium, hypertrophy and hyperplasia of the follicles, a frequent lymphocytosis with germinal centers. However the latter can no longer be considered characteristic of Basedow's disease as we now know that they are only the manifestation of an increase of thyroid function. They may be absent after treatment with iodine.

Voss agrees with Sudeck in distinguishing clinically (1) hyperthyroidism (2) Basedow's disease and (3) a rare neuropathic condition. In hyperthyroidism there is tremor with an increase in the metabolism, a loss of weight, palpitation, tachycardia, sometimes cardiac irregularity and occasionally widening of the palpebral fissure but never exophthalmos and never any vascular bruit with vascularization of the goiter. Lymphocytosis is not a criterion as it occurs also in simple goiter.

In Basedow's disease there is exophthalmos with its associated eye signs, enlargement and vascularization of the thyroid, a vascular bruit, tremor, sweating, diarrhea and psychic disturbances. As the increase in the metabolism may be very slight it is not a reliable sign.

In studies of the central nervous system Voss made findings of considerable aid in the differential diagnosis. Tests were made with KSS on the median

nerve It was found that excitability is increased in hyperthyroidism, decreased in Basedow's disease, and normal in simple goiter This finding does not parallel the increase in the metabolism In Basedow's disease operation usually produces no change.

Voss next determined the stimulation threshold (rheobasis) and the time required for excitation (chronaxia) In these also he found a distinct difference In hyperthyroidism the chronaxia was somewhat above the normal whereas the rheobasis was lower In Basedow's disease the rheobasis was high and the chronaxia still more prolonged. Attention is called to the fact that the diagnoses of hyperthyroidism and Basedow goiter were proved by histological examination as well as by the clinical symptoms The findings show that there is no heterochronism as claimed by Lapique The r relation between muscle and nerve is not disturbed, and that in normal persons the chronaxia for the extensor muscles is usually twice that for the flexor muscles In the flexor muscles the chronaxia is usually more markedly changed than for the extensor muscles The muscle symptoms of Basedow's disease (weakness, easily induced fatigue) therefore depend on a disturbance in the antagonist relationship From this fact and the findings of investigations carried out by Hosemann and Walther, Voss concludes that Basedow toxin has an influence on nerves as well as muscles There is no parallelism between the severity of Basedow's disease and that of the nerve and muscle disturbances However, the severe nerve disturbances are found in cases of longer duration In early cases, even if severe, they subside after operation, whereas in old cases they do not Therefore, in Basedow's disease, operation should be performed early before the occurrence of irreparable degeneration in the nervous system In hyperthyroidism, on the other hand, the values always return to normal after operation, a fact indicating that the over-abundant normal secretion in this condition produced only a simple increase in the function of the normal nerves

Electrophysiological studies showed that in hyperthyroidism there is a classical galvanic hyperexcitability of the nerve and muscle apparatus, whereas in Basedow's disease there are signs of a beginning degeneration The latter is indicated also by pathologico-anatomical findings Moreover, as the eye symptoms associated with Basedow's disease occur also with post-encephalitic changes in the mid-brain, Voss believes that it is not unlikely that they are based on degenerations in the midbrain This is indicated also by the fact that, in spite of operation, the eye symptoms regress only in very early cases

The status neuropathicus described by Sudeck corresponds to the atypical Basedow disease of Kocher, the forme fruste of Charcot, pseudo-Basedow's disease, and the basedowoid or Chwostek vasocardial neurosis In this condition there is a soft diffuse goiter but no vascular bruit, and the thyroid tissue is always histologically normal Thyroidectomy does not come up for consideration

The treatment of the postoperative reaction in Basedow's disease. The pre-operative iodine treatment of Plummer and Boothby has greatly reduced this reaction and the mortality. The reaction occurs in the first forty-eight hours after operation and is characterized by an acute threatening increase of all the Basedow symptoms Its cause is not known There is a high fever which falls by lysis after the second day and is characteristic of all operations for goiter Death is an acute cardiac death The increase in the pulse rate is the manifestation of an increase in the minute volume output of the heart. This as well as the postoperative increase in the metabolism is only the manifestation of an increase in all the vital processes As a result of the prolonged toxic irritation the heart muscle gradually becomes paralyzed Therefore all of the usual treatments fail Voss now includes quinine in the treatment. Payr and Kleinschmidt have recommended the use of quinine hydrochloride in the pre-operative treatment, but it certainly is not so effective as iodine. In paroxysmal tachycardia the intravenous administration of quinine in the form of solvochin reduces the pulse frequency from 180-200 to 100-120 In eighteen cases of Basedow's disease Voss injected solvochin intramuscularly in order to avoid the undesirable by-effects of its intravenous injection An effect was noted in the treatment of the postoperative reaction but not in pre-operative treatment Beginning immediately after the operation, 2 c.cm. of solvochin were given every six to eight hours for the first two days The effect was very favorable as regards the fever and the increased pulse rate as well as the general condition For example, there was no restlessness Voss therefore strongly recommends this treatment

Voss has presented important evidence indicating that hyperthyroidism is to be sharply distinguished from Basedow's disease which is a dysthyroidism (FRANZ) PAUL STARR, M.D

Heim, H : Practical Experiences with the Surgical Treatment of Basedow's Disease (Praktische Erfahrungen mit der chirurgischen Basedow Behandlung) *Chirurg*, 1935, 7 147

Moderately severe and severe cases of Basedow's disease belong unconditionally under the treatment of the surgeon Division of the treatment of Basedow's disease into pre-operative treatment by the internist and operative treatment by the surgeon is absurd The surgeon should be responsible also for the pre-operative treatment In mild cases, complete bed rest, seclusion from visitors, a private room, the use of an ice collar, the application of an icebag to the heart, and the lactovegetarian diet recommended by Blum are often sufficient In moderately severe and severe cases the pre-operative iodine treatment of Plummer is essential.

In fifty cases reviewed by the author there was only one death, that of a woman who was hurried to operation without pre-operative treatment with iodine The formula for the Lugol's solution used at

the Martin Luther Hospital is as follows: tincture of iodine, 5; potassium iodide, 10; distilled water to make 100. This solution is stronger than the German Lugol solution and weaker than the American Lugol solution. Beginning with 5 drops three times a day, the dose is increased to 15 drops three times a day. If cardiovascular symptoms are prominent quinine hydrobromide is used. Even the most severe cardiovascular disturbances do not contra-indicate operation. The therapeutic effect of quinine and other drugs becomes apparent after a few days of iodine treatment. The basal metabolism can be determined with complete clinical satisfaction by the use of Read's formula ($0.75 \times \text{the pulse rate} + \text{the blood pressure} \times 0.71 - 72$). The absolute height of the basal metabolism is of less significance than its depression under treatment. Electrocardiography is not yet well established in Basedow's disease and yields too variable results. In half of the cases the blood picture shows a lymphocytosis and a leucopenia and in the other half appears normal or shows a leucocytosis. In the cases reviewed by the author the decrease in the polymorphonuclears described by Kocher was not observed. Of forty-five women only nine had normal menstruation. In contrast to Rahm Heim regards operation as indicated in moderately severe cases even at the menopause. Of the fifty surgically treated patients whose cases are reviewed thirty-seven had been treated medically elsewhere—many of them for as long as a year—without any or at most only transitory improvement.

Iodine treatment without subsequent operation is unconditionally to be avoided. X-ray treatment is inadvisable not only because its value is very ques-

tionable but also because it increases the difficulty of operation by producing sclerosis of the tissues of the neck.

In the cases reviewed operation was performed usually under full narcosis with an avertin base. As recommended by Rahm 0.125 gm of avertin base was used per kilogram of body weight. Intravenous narcosis induced with evipan and eunarcor was also found satisfactory. The operative field was prepared with alcohol.

With regard to the technique of the operation the author states that the low supraclavicular collar incision was used; the vessels of the upper pole were sectioned after ligation, the vessels of the lower pole were ligated as near as possible to the junction of the inferior thyroid artery with the carotid; a wedge resection leaving a remnant the size of a date was performed and a thin rubber drain was left in the angle of the wound on each side for forty-eight hours.

Postoperative shock is due not to flooding of the blood with thyroid secretion but to the sudden decrease of that secretion (the hypothyroidemic shock of Bier and Roman). In one of the cases reviewed unilateral paralysis of the recurrent laryngeal nerve occurred.

Of the fifty patients thirty-six regained the ability to work, nine are still under treatment two are definitely unable to work (one with transitory hemiplegia and the other with a large myoma) two had clinically unsatisfactory results and one died.

In conclusion Heim says that observation for from four to six weeks after operation is necessary to determine the result with certainty.

(WERNER BLOCK) PAUL STARR, M.D.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL NERVES

Jentzer, A.: Urgent Indications for Operation in Recent Closed Traumatic Cranial and Cerebral Injuries (Indications opératoires d'urgence dans les lésions traumatiques fermées récentes du crâne et de l'encéphale) *J de chir.*, 1935, 46 23

Jentzer presents statistics on 837 cases of head injury. The cases are divided into 6 groups according to the type of treatment used and whether a fracture was present or not. The total mortality was about 40 per cent. The causes of death were cerebral hypertension, hematoma, hemorrhage, bulbar compression, contusion and destruction of cerebral tissue, pulmonary complications, and emboli.

The author states that to determine the treatment indicated the patient must be watched closely as progression or persistence of symptoms may indicate immediate surgical interference. When Queckenstedt's procedure is positive, lumbar puncture is dangerous; hence its routine use is to be discouraged.

Trephination of the skull is advisable when (1) coma develops after a lucid interval, (2) there is unilateral mydriasis, (3) localizing neurological signs such as facial paralysis, paralysis of other cranial nerves, changes in the visual field, fixation of the pupil, Babinski's sign, hemispasm, and hemiparesis are observed, (4) unilateral exophthalmos appears, and (5) alarming symptoms such as convulsions, a decrease in reflex activity, slowing of the pulse, failure of the pupillary reaction to light, a rise in the temperature, signs of cerebral hypertension, coma, or persistent stertorous breathing develop.

Bilateral trephination should be done when there is herniation into the wound following or during operation on one side. Ventricular drainage is of value for the relief of pressure. In view of the frequency of lesions by contrecoup, bilateral trephination is advisable when such lesions are suspected.

Occipital trephination is urged for grave cases in which (1) localizing signs are absent, (2) lumbar puncture and Queckenstedt's procedure gives negative results, (3) the symptoms become suddenly worse, and (4) drainage by the temporal route fails to relieve the symptoms.

The author regards surgery as advisable under the conditions mentioned because in 117 cases in which autopsy was performed the lesions found were so extensive that the patient could not possibly have been relieved by non-surgical measures. He believes that surgery is indicated to prevent

1. Neurological sclerosis with consequent disability, dizziness, and headache. Bagley and Cushing

contend that the results of "micro-traumatism" can be lessened by trephination in cases of serious head injury.

2. Edema and changes in the cells of the choroid plexus.

3. Various reactions to hemorrhage: (a) hematic intoxication, (b) irritation and compression by hematomas, (c) the formation of a favorable culture medium for bacteria, (d) cranial hypertension and the hypersecretion of cerebrospinal fluid, (e) edema, (f) sympathetic disturbances (congestion, edema, anemia), and (g) lesions causing no immediate symptoms, such as those due to contrecoup.

MARSH W. POOLE, M.D.

Wechsler, I. S.: Abdominal Pain as a Symptom of Disease of the Brain. *J Am M Ass*, 1935, 105, 647.

Wechsler reports twelve cases of intracranial disease in which abdominal pain was a presenting or very prominent symptom. In some of these cases operation was performed in the belief that the symptoms were caused by abdominal disease. The intracranial diseases included cerebral abscess, cerebral tumors of various types, pituitary tumor, arachnitis blocking the ventricular foramina, venous angioma of the brain, and buccal neural pouch cyst.

In six cases (seven, if a tumor in the region of the pituitary impinging on the frontal lobe is counted) there was involvement of the frontal lobes, in two each, involvement of the temporal and occipital lobes; and in three, involvement of the cerebellum or the posterior fossa.

Most of the evidence presented points to the cortex and possibly to the frontal, more particularly the premotor, area as the source of neurogenic abdominal pains and indicates that the cortex contains visceral autonomic representation. However, there is also evidence indicating that the hypothalamus and possibly the vagus region may be responsible for the abdominal pains, and that if the cortex is the source, the pain is transmitted by way of lower levels or centers. The symptom cannot be said to have a localizing value though it may point to the frontal portion of the brain.

JOHN WILTSEE EPTON, M.D.

Bucy, P. C., and Buchanan, D. N.: The Simulation of Intracranial Tumor by Lead Encephalopathy in Children, with Remarks Concerning the Surgical Treatment of the Latter. *J Am M Ass*, 1935, 105 244.

Lead encephalopathy in children may be accompanied by all the signs and symptoms of an intracranial tumor. The authors report three cases in which it was originally diagnosed as a tumor, and

at operation, because of the absence of evidences of tumor, was diagnosed as serous arachnoiditis. Frequent symptoms are increased intracranial tension, papilledema, palsy of the external rectus muscles, vomiting, headache, and convulsions. In adults, symptoms liable to be confused with those of brain tumor are less likely to occur.

In children the evidences of lead poisoning which are most common in adults—a lead line on the gums, anemia, stippling of the erythrocytes and peripheral neuritis—are usually absent. Major convulsions are rare in cases of tumor of the cerebellar fossa and may be absent in lead poisoning. Changes of mentality are due largely to increased intracranial pressure as in cases of tumor, whereas the delirium, hallucinations, and delusions frequently occurring in adults with lead encephalopathy are rare.

The most important diagnostic aid recently described is the roentgen demonstration of lines of increased density at the ends of the diaphyses of the long bones. However there are no positive criteria of lead encephalopathy in children.

The mortality of lead poisoning in children varies from 25 to 75 per cent. Sequelæ of the condition are frequent and severe. Among them are hemiplegia, convulsions, blindness, paralysis, mental deficiency, delirium, and melancholia, tremor, speech defects, and disturbances associated with cerebral atony and internal hydrocephalus.

Medical treatment by deleading is dangerous and usually unnecessary. While convulsions may be controlled the increased intracranial tension continues in spite of lumbar puncture and the use of hypertonic solutions and results in death of sequelæ in at least one out of every four cases.

The three cases reported by the authors indicate that decompression by the cerebellar route is the treatment of choice. Two of the patients who would have had an unfavorable prognosis under medical treatment recovered rapidly after the decompression. The third, with less elevation of the pressure, was seriously ill for a long time under medical therapy.

Cerebellar decompression allows exposure of the cerebellum in doubtful cases without a resulting unsightly scar or protrusion. The authors suggest that subtemporal decompression might be as effective as cerebellar decompression. This could be performed more easily and quickly, but would have the disadvantage of leaving an obvious defect in the temporal bone and a disfiguring scar.

EDWARD S. PLATT, M.D.

Winkler, F. Injuries of the Middle Meningeal Artery (Über Verletzungen der Arteria meningea media). *Arch f. Klin. Chir.* 1935, 184: 133.

The author discusses forty cases of tearing of the middle meningeal artery observed at the First Surgical Clinic of the University of Vienna in the period from 1919 to 1934. In all of three cases in which the lesion was caused by a bullet death resulted. Death was due not to a hematoma and increased intra-

cranial pressure but to destruction of vital centers. All signs pointed to severe injury of the brain. A diagnosis of associated injury to the middle meningeal artery could not be made. A very unusual lesion was an intradural hematoma associated with the injury of the middle meningeal artery. The tear occurred on the inner side of the artery in a lacerated patient.

In cases of subdural hematoma the free interval which is characteristic of epidural hematoma is very short and may be entirely absent. Among the forty cases reviewed there were thirteen of strictly epidural hematoma without severe associated injuries. The author discusses four of the latter in detail. In twelve the injury was manifested by a pressure pulse in seven there was a free interval and in eight, the pupil on the side of the hemorrhage was dilated and reactionless. Because of its frequency in these cases the author believes that dilatation of the pupil on the side of the hemorrhage is a particularly important sign. According to the literature dilatation of the pupil on the side of the injury occurs in about half the cases. In twenty-three of the cases reviewed by the author the injury of the middle meningeal artery was associated with injury of the skull and brain and the consequent symptoms prevented recognition of the hemorrhage.

Of the twelve patients with uncomplicated epidural hematomas, eight were operated upon. Of the latter seven recovered and one died, whereas of the four who were not operated upon all died.

Of twenty-four patients with associated brain and skull injuries thirteen were operated upon. Of the latter ten died, whereas of the eleven who were not operated upon all died. These twenty-four patients had very severe brain injuries and many of them were in a practically moribund condition when they entered the hospital.

(VOGELFELD) LEO A. JUVENIL, M.D.

SPINAL CORD AND ITS COVERINGS

Porro, N. Roentgen Exploration of the Subarachnoid Space—Myelography (L'esplorazione radiologica dello spazio sotto-arachnoideo—mielografia). *Radiol. med.* 1935, 41: 457.

The author reviews the roentgenological methods of exploring the subarachnoid space. After citing Dandy's subarachnoid introduction of air and Ebbert's recent roentgenological rachimetry, he discusses the use of opaque substances.

He gives his reasons for preferring lipiodol to the other oils, describes the physicochemical and physiological characteristics of lipiodol, reviews the contraindications to its use, and cites the accessory phenomena sometimes caused by it.

The introduction of lipiodol into the subarachnoid space will be followed by a normal passage, complete block, or partial block.

The passage of lipiodol in the subarachnoid space is considered normal when the oil traverses the space from one end to the other in a few minutes. In the

usual position it will collect in a mass with the shape of an inverted cone at the level of the first sacral vertebra. When the patient is maintained in the Trendelenburg position it will finally reach the lateral ventricles. Little or no significance should be attributed to the arrest of small particles of lipiodol at any level. This is probably due to adherence to the roots or meningeal folds. As a rule such particles can be mobilized by percussion of the vertebral column or coughing. The introduction of lipiodol in the subarachnoid space soon after a spinal puncture should be avoided as the diminished distention of the subarachnoid space caused by this procedure usually produces a false arrest of the lipiodol. The author advises delaying the injection of lipiodol for five or six days after the puncture.

In the presence of complete block the oil usually comes to rest on top of the obstacle. Its usual shape is that of a cap, but occasionally it may assume the shape of the teeth of a saw or a comb. When the lipiodol has been introduced from above, the arrest is permanent. When it has been introduced from below it will immediately leave the inferior pole of the obstacle as soon as the patient is returned to the vertical position. A good part of it always remains entangled in the meshes of the inferior pole of the obstacle.

In the presence of partial block, some of the oil traverses the entire space while the remainder comes to rest at the level of block. The arrest may be permanent or transitory. The interpretation of partial blocks is difficult. This is true especially when the figure of the lipiodol is not typical. Under such conditions clinical and biological findings are necessary for proper interpretation. In cases of syringomyelia and those of intramedullary tumor the lipiodol figure is typical. It consists of lateral finger-like prolongations separated by a clear space.

DAVID JOHN IMPASTATO, M.D.

Adelstein, L. J., and Patterson, G. H.: The Surgical Treatment of Ependymal Glioma of the Spinal Cord. *Arch. Surg.*, 1935, 30, 997.

Tumors originating from the ependymal cells constitute only a small percentage of the gliomas found in the brain whereas they are among the common parenchymatous tumors of the spinal cord. Kernohan, Woltman, and Adson found that of fifty-one verified intramedullary tumors of the spinal cord, 42 per cent were ependymomas. The authors report in detail two cases of ependymoma of the spinal cord which came to operation.

They state that, in the brain, ependymomas occur most frequently in the posterior fossa near the mid-cerebellar region, probably arising from the roof of the fourth ventricle. Often they grow down through the foramen magnum.

Ependymomas arising primarily in the spinal cord are accessible for surgical removal. Association with syringomyelic cavities is characteristic.

The differentiation of intramedullary and extramedullary tumors of the cord is often extremely

difficult. An intramedullary location is suggested by absence of irritation of the posterior roots, a dissociated waistcoat type of sensory disturbance, and a marked difference in the levels of the various sensory disturbances. In cases of intramedullary tumor, pain is not a common symptom, but root pains may be caused by arachnitis or a tumor arising near the posterior horns. The presence of an intramedullary neoplasm cannot be determined from the length of time the symptoms have been present. Three of Kernohan's patients with intramedullary ependymomas had had symptoms for ten, thirteen, and fourteen years respectively.

In the surgical treatment of ependymal glioma of the spinal cord a wide laminectomy is done, an incision made along the midthoracic aspect of the cord with separation of the posterior columns, and the tumor, which is usually quite firm and encapsulated, removed by careful blunt dissection with the aid of silk traction sutures. The dura is left open for decompression, but the wound is closed tightly to prevent the formation of a cerebrospinal fluid fistula with subsequent fatal infection.

EDWARD S. PLATT, M.D.

D'Harcourt Got, J., and D'Harcourt Got, M.: A Contribution to the Study of Intraspinous Meningeal-Exotheliomas (Contribución al estudio de los meningo-exotelomas intrarraqúidos). *Actas Soc. de ciruj. de Madrid*, 1934, 4, 15.

The authors report the case of a man twenty-eight years old who, without preceding trauma, suddenly noticed hypesthesia of the right thigh and during the following night had contraction flexures of the leg. In a few days the hypesthesia extended to the other leg. Weakness of the legs then began and progressed until, on the eighteenth day, the patient was obliged to remain in bed.

When he was admitted to the hospital he was suffering from complete spastic paraplegia. The upper limit of the disturbance of sensation was just below the costal arch, that is to say, in the region of the sixth thoracic vertebra. The abdominal and cremasteric reflexes were abolished. The typical Babinski sign was present. The patellar and Achilles tendon reflexes were exaggerated. There was a marked ankle clonus. The defense reflexes in the lower limbs were very active.

Roentgen examination over the fifth and sixth thoracic vertebrae revealed nothing abnormal. The spinal fluid showed a high content of albumin but a practically normal cell count. This disagreement between the albumin and cell findings indicated a more or less complete subarachnoid block. The Wassermann reaction was negative. Roentgen examination with lipiodol showed retention between the fourth and sixth thoracic vertebrae. The obstruction was not complete as lines of lipiodol passed down at the side of it. At the end of twenty-four hours all of the lipiodol except small amounts retained by a mild adhesive arachnoiditis had descended. The diagnosis was spastic paraplegia from compression of

the cord at the level of the fourth to sixth thoracic vertebrae by an intradural but extramedullary tumor, probably of arachnoid origin.

Operation disclosed a wine red tumor the size of a filbert, adherent to the arachnoid in a slightly right lateral position and not connected with the roots. The patient suffered no shock and made a remarkably rapid recovery. After a rest of two months he was able to return to work.

Microscopic examination showed the tumor to be a meningo-epithelioma originating from the ectothelium of the arachnoid that is to say of mesodermal origin. It was not connected with the dura mater. It contained a large number of cystic cavities.

ALFRED GOS MORRAN M.D.

PERIPHERAL NERVES

Gosses A., and Bertrand I. The Use of the Spinal Cord as a Heteroplastic Graft for Peripheral Nerves (La moelle épinière utilisée comme greffon hétéroplastique des nerfs périphériques) Bul et mem Soc nat de chir 1935 61 837

Nerve suture is preferable to grafting when it is possible, but when the defect in the nerve is of considerable size grafting is necessary. Nageotte's nerve grafts have not proved particularly successful. One of the chief obstacles to the neurotization of grafts is the development of excessive connective tissue. Grafts with minimal connective tissue are furnished by sections of the spinal cord. These should be taken in the thoracic region where there is little gray matter.

The authors have grafted segments of the cords of rabbits and cats into the peripheral nerves of dogs. The whole thoracic segment of the spine is removed with the cord in its normal position. If the cord were removed alone it would retract to such an extent that it could not be used. The vertebral column is fixed for a day in a 10 to 20 per cent solution of formal. The cord can then be removed with its sheath of dura mater. It can be kept in formal for several months without the occurrence of any special change. Several days before it is to be used it should be washed for twenty-four hours in sterilized water to remove all traces of formal and kept for two or three days in 90 per cent alcohol.

In an experiment on a dog the authors replaced a portion of the sciatic nerve by a spinal cord graft. After six weeks there was marked clinical improvement and regeneration was demonstrated by both electrical and histological examination. The authors state that they have not yet tried this method of grafting in clinical cases but feel justified in doing so in the next case in which grafting of a peripheral nerve is indicated.

In the discussion of the report ALFVAY cited a case of gunshot wound in which he used as a graft a human nerve prepared according to Nageotte's method. The graft was obtained from a patient who had been subjected to an amputation a few

minutes previously. Therefore the conditions for such an operation were as good as possible. When the patient was seen again nineteen years later it was found that the operation had failed. He had been granted compensation for disability of 60 per cent.

MORRE also reported a case of failure with the use of a nerve graft taken from a patient subjected to amputation.

CUNEO said that the spinal cord graft appeared to be a perfect one for nerve injuries. The dura mater is an excellent sheath for protecting the developing axis cylinders. A slight excess of dura can be used to cap the ends of the nerves and facilitate suture. During the war Cuneo found nerve grafts unsatisfactory.

GERVIZ said that he believed spinal cord grafts would prove useful.

PICOT reported an experiment in which a first attempt at grafting the sciatic nerve of a dog was unsuccessful but when at re-operation a tunnel of fascia lata was used for the graft a good result was obtained.

ALFRED GOS MORRAN M.D.

SYMPATHETIC NERVES

Levin G. I. L. The Treatment of Bronchial Asthma by Dorsal Sympathectomy Ann Surg 1935 101 161

After reviewing the known facts regarding bronchial innervation the author arrives at the conclusion that the dorsal sympathetic nerves especially the second, third, fourth, fifth and sixth ramus contain contractor fibers to the bronchial musculature as well as sensory bronchial fibers. Both the ramus and the thoracic trunk are accessible for neurectomy or for neurectomy by absolute alcohol.

Levin describes Rowle's anterior sympathectomy, Adson's posterior sympathectomy, Leriche's posterior ramisection, destruction of the ramus by the injection of absolute alcohol and destruction of the upper portion of the thoracic ganglionated trunk by the injection of absolute alcohol. His experience has been mainly with the two latter procedures. Of the twenty-three cases which he has treated by the injection of absolute alcohol complete relief resulted in 75 per cent and improvement of varying degree in the remainder.

DAVID JOHN IMPASTATO M.D.

De Takats G. Splanchnic Nerve Section in Juvenile Diabetes Ann Surg 1935 101 21

The only juvenile diabetics who may be benefited by splanchnic nerve section are those who are resistant to insulin. This operation may be beneficial if there is a marked suppression of the galactose hyperglycemia by ergot. When the diabetic does not respond to ergot a sympathetic deprecant nothing can be expected from splanchnic nerve section. Before the operation is undertaken tuberculous infection must be ruled out.

In the author's cases the patient is hospitalized for from eight to ten days before the section to

insure complete control of the diabetes. The operation is performed under light ethylene anesthesia supplemented by paravertebral blocking of the ninth, tenth, and eleventh dorsal segments and local infiltration along the line of incision.

The author describes in detail his supradia-phragmatic approach for splanchnic nerve section. His paravertebral incision is made four finger-breadths from the midline. It is begun at the level of the angle of the scapula and curved laterally over the tenth rib or tenth intercostal space for a distance of 5 or 6 cm. Careful incision of the endothoracic fascia then permits easy dissection of the pleura. Before the thoracic chain and splanchnic nerve are excised novocain is infiltrated locally. To prevent regeneration, the major splanchnic nerve is implanted into the distal stump of the tenth intercostal nerve. Special care must be taken to avoid the intercostal veins entering the azygos and hemiazygos veins. The wounds are closed without drainage.

Three cases in which this operation was followed by uneventful convalescence are reported. In one case the quantity of insulin required daily was decreased by 50 units. The author believes that the two other cases were not adequate tests of the method as one was not suitable and in the other the technique of the treatment was faulty.

ROBERT ZOLLINGER, M D

MISCELLANEOUS

Lanier, L. H., Carney, H. M., and Wilson, W. D.: Cutaneous Innervation: An Experimental Study. *Arch Neurol & Psychiat*, 1935, 34, 1.

The injection of alcohol into various branches of the medial and lateral antebrachial cutaneous nerves in the left forearm of three subjects resulted in the production of five anesthetic areas.

The principal pattern of sensory dissociation revealed by careful outlining of these areas showed a

much more extensive loss of thermal sensitivity than of touch or pain sensitivity. Anesthesia to cold was somewhat less extensive than anesthesia to warmth. The outlines for touch and pain were usually very similar.

Sensibility to pain, touch, and cold stimuli began to return to the affected areas at about the same time and advanced distalward at approximately the same rate. The return of warmth sensibility was considerably delayed.

The thresholds for touch and pain in recovering areas were high at first and gradually returned to a normal level as nerve regeneration proceeded.

The ability to localize a stimulus of 15 gm was definitely impaired by cutaneous denervation, despite the operation of auxiliary factors which might have tended to lessen the error of localization as compared with that for normal skin.

Two-point discrimination was absent from skin anesthetic to touch stimuli, with maximum separation of the points of the esthesiometer used (80 mm). The two-point limen in areas of deep tactile hypesthesia was practically twice as great as that for normal skin.

The results of the study do not substantiate Head's hypothesis of protopathic and epicritic systems of fibers in cutaneous nerves. Neither the phenomena of sensory dissociation nor the patterns of changes in sensitivity occurring in intermediate and in recovering areas can be explained by this theory.

The sensory dissociations observed point conclusively to the existence of four types of anatomical mechanisms underlying cutaneous sensibility. The most plausible theory seems to be that these mechanisms consist of four groups of nerve fibers, each of which produces a distinct pattern of nervous excitation or action potential wave. The diameter of the fibers is probably an important basis of differentiation of the several groups.

DAVID JOHN IMPASTATO, M D

SURGERY OF THE THORAX

CHEST WALL AND BREAST

Fisher E. The Use of Skin Flaps in Cosmetic Plastic Operations on the Breast (Ueber Verwendung von Cutislappen bei kosmetischen Brustmaplastiken) *Zentralbl f Chir* 1935 p 615

The end results of plastic operations on the breast are frequently impaired by relaxation of the new supportive apparatus. Larger partial resections as well as numerous well known procedures for fixation of the breast are often unable to maintain an initially satisfactory result. As examples the author mentions attachment of the glandular tissue to the pectoral fascia, to rib periosteum (Dehner) and to rib cartilage (Girard) and free fascia transplantation by Goebell's method. It is better therefore to use the skin for the support of the breast. However, after a time this also gives way.

For the operative repair of defects elsewhere in the body the dermal layer of the skin has been recognized by Rehn, Lexer, Rueff and others as suitable. This holds and has resistance. From the skin which is removed at every plastic operation on the breast the author forms pedicled dermal flaps which he places one over the other and fixes. Above them, as a third layer, he sutures the skin. In its details the operative procedure is carried out according to the plastic method indicated in the particular case. In operating on a small pendulous breast, Eitner makes an oval incision around the nipple and dissects off only the uppermost layers of the skin. From the remaining dermal flaps he forms two straps, the upper ends of which are pedicled and the lower ends of which are attached at the lower pole of the gland. The skin is then closed. For correction of a somewhat larger pendulous breast not requiring resection the author operates according to the Morestin-Lotsch method using the skin for support. In addition to the two dermal straps constructed laterally a third strap is made beneath the areola. All of the straps are formed from the superficial skin which is usually discarded. The usual resection for a very large pendulous breast—the Lexer-Kraske operation, for example—also permits a similar formation of dermal straps.

In the Passot and Axhausen procedures the dermal flap constructed beneath the nipple is separated in the middle, the two halves are fixed one over the other and the skin is sutured over them. Thereby a strong unyielding suspension is obtained.

(F. WILLY) (A. B. REELL) THOMAS W. STEVENSON M.D.

Menville J. G. Fatty Tissue Tumors of the Breast *Am J Cancer* 1935 24 70

The author suggests that fat necrosis and xanthomatous degeneration in the breast arise from fat

tissue and should be classed with lipomas as fatty tissue tumors. The underlying cause of fat necrosis and xanthomatous degeneration is believed to be a local disturbance in the lipid metabolism produced by secondary factors such as trauma and ischemia. The rarity of fatty tissue tumors of the breast is evidenced by the fact that only 58 such neoplasms were found among approximately 3,000 breast tumors. At times they cannot be differentiated clinically from malignant growths. Biopsy and frozen section examination are essential in their diagnosis and treatment.

J. THORNTON WITTEB, ROYAL M.D.

TRACHEA, LUNGS, AND PLEURA

Bluhm I. L. The Working Test as a Clinical Method for Determining the Function of the Lungs *Scand J Clin Med* 1935 Supp 65

Tests made by the author in cases of pulmonary tuberculosis showed that the standard metabolism was normal and independent of the activity, extension or clinical nature of the process. No parallelism existed between the standard metabolism and the sedimentation reaction or minor elevations of the temperature. On surgical treatment, such as unilateral and bilateral pneumothorax, thoracoplasty, and excision of the phrenic nerve, no change in the standard metabolism occurred in connection with the operative therapy.

In studies of the circulation of the blood in the tuberculous lung investigations of the minute volume were made with determination of the arteriovenous oxygen difference during rest, by Grollman's acetylene method in cases of untreated tuberculosis cases treated by unilateral pneumothorax cases treated by bilateral pneumothorax and a case treated by thoracoplasty. The method is not applicable when the vital capacity is only 1.5 liters or less. In the cases of untreated tuberculosis the figures for minute volume, utilization, and stroke volume were normal. In a case with more severe pulmonary changes utilization was somewhat increased averaging 73 cc. In the cases treated by unilateral pneumothorax in which the collapse of the lung was of slight, moderate or marked degree there was no change in the minute or stroke volume or utilization. In the cases treated by bilateral pneumothorax and the case treated by thoracoplasty the figures were normal.

In studies of the function of tuberculous lungs determinations were made of the oxygen consumption at rest under standard conditions and after walking at a speed of 88 steps per minute up and down 3 sets of steps (3 steps up and 3 steps down) which were placed in a circle with a diameter of 2.5 meters and at equal distances from one another. 25

a rule the test consisted of 20 rounds, but in some cases it was 10 rounds. The oxygen consumption per minute after the exertion was calculated in percentage of the oxygen consumption per minute at rest. The value obtained is called the "relative oxygen debt."

In the cases of 13 normal men and 18 normal women functional tests made after exercise on the steps for 20 rounds showed a relative oxygen debt of from 0 to 25 per cent. In 10 of 13 cases in which simultaneous determinations were made after 10 rounds the figures were the same as after the 20 rounds, whereas in 3 cases they were somewhat lower. In the majority of the cases there was a relative oxygen debt of from 10 to 25 per cent after both 10 and 20 rounds. When several tests were made on the same person the greatest deviation was 6 per cent. There seemed to be no connection between the relative oxygen debt and weight or height. A comparison of the values obtained for vital capacity with standard vital capacity revealed considerable deviation in both men and women. The average values, however, showed good correspondence.

The 102 pathological cases in which functional tests were made were divided into the following 4 groups: (1) cases without operative treatment, (2) cases treated by pneumothorax, (3) cases treated by thoracoplasty, and (4) cases treated by exeresis of the phrenic nerve. Those of the second group were subdivided into the following 6 subgroups: (1) test made before and after insufflation, (2) test made with unilateral pneumothorax, (3) test made with unilateral pneumothorax and after previous treatment of the other lung with gas, (4) test made with seropneumothorax, (5) test made with bilateral pneumothorax, and (6) test made with bilateral pneumothorax with exudate on either side. The case histories and results in each group and subgroups are reported briefly.

In connection with each determination of the relative oxygen debt, tests of the vital capacity were carried out. The 2 functional tests are compared. For each patient the vital capacity was calculated in percentage of the standard value. The results usually showed no parallelism between the vital capacity and the relative oxygen debt. The vital capacity is individually variable and may present great differences. Therefore its value as a functional test is considerably reduced. Moreover, under treatment by pneumothorax or thoracoplasty there is a greater reduction of the vital capacity which is out of proportion to the slight dyspnea.

The functional tests demonstrated that in non-operatively treated pulmonary tuberculosis there must be considerable parenchymal injury before respiratory insufficiency develops. The elevated values show good correspondence with the extent of the pulmonary lesions. If one part of the lung is put out of function by a surgical procedure there is a rather rapid increase in the values which rise also with increasing extension of the tuberculous process. Moreover, in tissues altered by an exudative process

the relative oxygen debt is less than in productive and productive-exudative forms.

After the insufflation of large amounts of gas the functional test showed higher values when there was a high relative oxygen debt before the insufflation. After the induction of pneumothorax there is usually an increase in the oxygen debt. Of the author's patients treated by unilateral pneumothorax, 77 per cent showed a respiratory insufficiency. The relative oxygen debt rises with increasing collapse. In contrast to the frequent marked reduction in the vital capacity, the functional test shows a moderate increase which corresponds to the slowness of the dyspnea which is usually present in pneumothorax. In bilateral pneumothorax the functional test gives moderate values which are possibly somewhat higher than in unilateral pneumothorax. The vital capacity is usually considerably reduced. After cauterization there is often a minor increase in the relative oxygen debt if the compression has been increased.

The result of the plastic operations was in every case a marked reduction in vital capacity which for the most part must be ascribed to the immobilization of the chest wall brought about by the operation. In 1 case in which there was a simultaneous extension of the pulmonary process, the functional test after the operation showed a definite increase in the relative oxygen debt. In the other cases there was no change. In 1 case in which the test was made only after the operation the oxygen debt was 40 per cent. Four plastic operations had been performed with marked collapse of the lung. Functional tests in cases treated by thoracoplasty yielded values corresponding rather well to those found in cases in which a corresponding degree of compression was obtained with unilateral pneumothorax.

In 3 cases in which exeresis of the phrenic nerve was done (elevation of the diaphragm was obtained in only 1), the relative oxygen debt remained unchanged after the operation.

Tests made in cases with seropneumothorax showed that the presence of a large amount of exudate has an influence on the relative oxygen debt. The values rise with the development of fluid and fall with its decrease. The higher values are found with large quantities of exudate. It is possible that the exudate produces a more effective collapse of the lung than pneumothorax alone.

According to Lindblom, pathologico-anatomical studies of the lung expanded after pneumothorax show that there is a decrease in pulmonary function when the nitrogen therapy was complicated by a long-standing exudate. In 3 of 4 cases in the author's series the values for the relative oxygen debt corresponded fully.

A comparison of the results of the functional test and the patient's present working capacity shows a good correspondence even if the clinical changes are ignored. When the functional test is normal the patient usually regains full working capacity. In cases treated by unilateral pneumothorax there was a reduction of the working capacity with an increase in

stropically so that, if necessary, operation may be undertaken at the proper time

MAURICE P. MYERS M.D.

Lloyd M. S. The Early Classification and Early Diagnosis of Cancer of the Bronchus. *New England J Med* 1935 353 101

The author suggests a simple classification of bronchial cancers based on the location of the tumor, reviews the important symptoms, physical findings, roentgen findings and special diagnostic methods employed in the various groups of cases, discusses the differential diagnosis and analyzes thirty one cases.

The bifurcation of the trachea occurs in almost the exact geometrical center of the air bearing tissue of the lungs. It has long been recognized that the degree of malignancy of chest tumors varies inversely with the distance from this center. Therefore it appears that a simple classification of early bronchial cancers based on the position of the tumor in the chest would be of value in determining the presence, operability and prognosis of such neoplasms. The author divides the chest into three zones—a central, a middle and a peripheral zone—and gives the cause of the symptoms of bronchial cancer in these zones as follows: central zone hilus infiltration, middle zone bronchial obstruction, peripheral zone centrifugal expansion.

Early diagnosis of the less frequent types of primary carcinomas is usually made accidentally, on bronchoscopic examination.

Hilus infiltrating cancers are the least common. They arise from the trachea or stem bronchi and extend down the bronchial walls or vascular structures into the hilus glands or invade the surrounding tissue directly. Because of the size of the airways, obstruction does not occur until late. These characteristics explain the cardinal symptoms of substernal and shoulder aches and pains which are sometimes radiating and often very severe. Later symptoms are cough, difficulty in swallowing, hemoptysis, dyspnea, hoarseness and various gastric dysfunctions due chiefly to nerve involvement. The roentgen signs include widening of the mediastinal shadow, bulging of the tumor into the airways, fixity and rigidity or deformity of the esophageal lumen, shifting of the trachea toward the lesion, accentuated radiating striations from the lung root and especially elevation of the diaphragm on the affected side.

The bronchial obstructive cancers arise from the smaller bronchi. Their prime manifestations are disturbances of the drainage of the portions of the lung distal to the lesion. These disturbances vary from slight impairment of drainage to complete obstruction with atelectasis or pneumonia. The distance of the lesion from the mediastinal structures delays involvement of other organs. The earliest symptom is cough which is usually productive and often associated with the appearance of blood in the sputum. A history of repeated colds with

chills and fever and never quite complete recovery is common. The cough is generally accompanied by dyspnea and some degree of pain. The roentgen findings are those of partial or complete atelectasis of a lobe or part of a lobe. In the more advanced stages there may be cavitation. Differentiation of the condition from tuberculosis and chronic pulmonary suppuration is necessary and usually possible.

The cancer of the centrifugal expansive type arises in the soft tissue of the lung. It is round and sharply defined until its growth is impeded by contact with a more solid structure, usually the pleura or chest wall. The earliest symptom is a heaviness or sense of oppression. Later when the pleura or intercostal nerves become involved the pain may become sharp and stabbing. Cough usually begins early but is not distressing and may not be accompanied by hemoptysis. Roentgen examination shows first a round shadow and later collateral infiltration, effusion, atelectasis and possibly bone destruction.

Of the special diagnostic methods the author discusses bronchoscopy, pneumothorax and thoracoscopy, punch biopsy, operative biopsy and bronchography. Most important in the early diagnosis of bronchial cancer however are the alertness of the clinician in recognizing the early symptoms and signs and adequate roentgenograms to establish the indications for biopsy and a positive diagnosis.

JAY EUGENE TREMAYNE M.D.

HEART AND PERICARDIUM

Fischer H. Advances in the Field of Thoracic Surgery. The Pericardium and the Heart. (*Fortschritte auf dem Gebiete der Thoraxchirurgie, Herzbeutel und Herz*) *Zeitschrift f. Chir.* 1935 p. 1228.

Since the contributions of Volhard and Schminke in the recognition and treatment of adhesive pericarditis the indication for the operation of pericardiectomy has not changed. However on account of the severity of the operation many have advised against it. Lenormant recommends that the surgeon confine himself in general to Brauer's thoratomy. His belief is that the great pessimism which exists in regard to pericardiectomy is on account of its high mortality is not altogether justified because the operation comes up for consideration only in very serious cases in which the cardiovascular system is already greatly damaged. In spite of many unsuccessful results the operation should be given due consideration as a last resort.

During and after the operation every factor which may lighten the burden on the heart must be carefully considered. Of the most importance are measures to assure normal respiration. Tearing of the pleural pneumothorax and removal of the lung borders on the rib stump must be prevented. Reection of the inserts in the costal arch into the sternum should be avoided because it disturbs the function of the diaphragm and abdominal muscles. Before the

operation any hydrothorax which is present should be treated by drainage. The late results depend essentially on the condition of the heart muscle. As a rule heart function is still good when chest-wall symptoms are prominent. Absence or mildness of chest-wall symptoms indicates that the heart is not strong enough to pull the chest wall in even though adherent to it.

While simple thoracotomy is usually not sufficient, a two-stage operation with later cardiolysis is to be strongly recommended. Brauer's cardiolysis alone seldom results in cure as accretio and concretio cordis are usually associated. The author reviews the pericardiectomies which have been performed since Paessler's contribution. Experience has shown that recurrences do not develop if the, pericardiectomy is done in the right plane. In the estimation of the late results the extent of permanent damage from the congestive condition must be considered, and Paessler's observation that in many cases severe pericarditis has a rheumatic basis due to chronic foci of infection in the teeth and tonsils should be borne in mind. The removal of foci of infection is absolutely essential.

To prevent serious injury of the function of the heart the diagnosis must be established promptly. The diagnosis still presents difficulties. A new procedure for recognition of the condition is the pneumotachography described by Hochrein. This method may be of value in the differential diagnosis also in cases in which, in spite of the absence of clinical manifestations, the roentgenogram shows marked calcification of the layers of the pericardium.

With regard to the cause of pericarditis Fischer cites Paessler's theories. According to Goetze, the condition may be of traumatic origin, the result of an organized hematoma. For partial pericardial adhesions French surgeons recommend phrenic exeresis. Fischer believes that freezing of the nerve should always be tried before section.

In discussing the treatment of pericarditis, Hitzenger warns that too rapid emptying of the pericardial effusion may lead to accidents. He advises posterior puncture through the pleura. When this is done the effusion can slowly trickle into the pleural space and damage to the heart lying against the anterior chest wall is avoided.

For decompression of the enlarged heart, Lenormant and Leriche recommend the formation of a window in the chest wall. Theoretical considerations justify this procedure as it not only provides more room for the heart as a whole but also prevents interference of with one part of the heart by another. Unfavorable results may be due to loss of support of the heart with its liberation.

When the heart is otherwise normal, the formation of a window in the chest wall is to be considered when there is a malformation of the chest such as infundibular thorax. In a new method of widening the chest which has been described by Sauerbruch the insertions of the fourth to eighth costal cartilages on the right and left sides are cut. Then, by means of

two linen tapes passed under it, the sternum is held forward until it grows to the ribs again.

Further progress has been made also in the treatment of valvular defects of the heart. In severe mitral stenoses and congenital stenosis of the pulmonary artery, operation comes up for consideration.

In experiments on animals Leriche and Fontaine obtained good results by implanting a flap of a pectoral muscle into a muscle defect in the left ventricle. It is suggested that cardiac infarcts in man may be corrected in the same way.

As characteristic signs of myocardial tumors, the author cites the striking enlargement of a single portion of the heart and the absence of pulsation in the region of this enlargement.

When cardiac injury is suspected immediate operation is indicated. As suture material, silk is recommended. The mortality after cardiac suture is between 50 and 60 per cent. To reduce the damage from shock to the heart, morphine is recommended. Deaths occurring in the absence of an appreciable loss of blood or of compression in the pericardium are attributed to irritation of the pericardium, epicardium, and endocardium.

In commotio cordis induced experimentally Schlomka and Schmitz found acute traumatic dilatation of the heart a constant sign. To relieve the heart in this condition venepuncture is advisable. Peripheral stimulants should not be employed.

(SCHMUTZLER) PHILIP SHAPIRO, M D

ESOPHAGUS AND MEDIASTINUM

Guisez, J.: The Relative Frequency of Various Affections of the Esophagus According to a Statistical Study of Cases Observed in the Last Ten Years (*Fréquence relative des différentes affections de l'oesophage d'après la statistique des cas observés dans ces dix dernières années*) *Bull et mém Soc d chirurgiens de Par*, 1935, 27 331

The author reviews 946 cases of esophageal conditions. Only 41 of the patients were children. Thirty-five of the children were suffering from cicatricial stenosis due to the ingestion of a caustic. There were no cases of syphilis of the esophagus. In 565 cases the lesion was a cancer. Cancer was 5 times more common in males than in females, and occurred most frequently in the middle and lower portions of the esophagus. It was found in the upper portion in only 18 cases. In all but 28 cases it had reached an advanced stage. Radium irradiation is advocated for curative and palliative treatment.

Next in frequency to cancer was spasm with contracture and sometimes inflammatory stenosis, of which there were 259 cases.

Diverticula were found in 26 cases, 5 those of females. The most satisfactory treatment was surgical removal in 2 stages.

Of the patients with cicatricial stenosis, 38 were adults.

Among the rarer types of lesions were 1 typhoid and 2 post-scarlatinal stenoses.

the relative oxygen debt. Of the patients with a very large oxygen debt (7 patients treated by pneumothorax after previous treatment of the other lung with gas) 2 are now able to do light work. No conclusions can be drawn if the tests are made when a large amount of exudate is present as the oxygen debt improves as the quantity of exudate decreases. In the cases of patients treated by bilateral pneumothorax the working capacity seems to show a good correspondence with the functional test. The few cases treated by thoracoplasty demonstrate that, in spite of considerable reduction in the vital capacity, full working capacity is possible with a normal or moderate elevation of the relative oxygen debt.

Izzo R. Aguilar O P and Aguilar H D. Results of Surgery of Pulmonary Tuberculosis (La cirugía de la tuberculosis pulmonar). *Nuestros resultados*. *Semana med* 1935, 42, 1.

The authors report with roentgenograms sixty-three cases of pulmonary tuberculosis treated surgically. From the results in these cases they conclude that the importance of pleuroscopy and intrapleural section of adhesions should be more widely recognized and the procedures should be carried out earlier. No time should be lost in treatment by artificial pneumothorax as it is ineffective and exposes the patient to serious complications such as perforation and empyema—the surgical treatment of which is much more difficult than that of the original condition. Irenicectomy and filling rarely give definite and final results by themselves. Irenicectomy is a valuable auxiliary to other treatments. In cases in which simpler methods are not effective early thoracoplasty is the procedure of choice. The technique should be that which will produce the maximum therapeutic effect with minimal trauma. When the condition is well localized and stationary the thoracoplasty should be partial but in the majority of cases it should be total with ample resection at the site of the most serious lesions.

Of the eighteen reviewed cases in which thoracoplasty was done a practical cure was obtained in ten (55.5 per cent), no result in 3 (16.6 per cent) and a poor result (aggravation of the condition or death) in five (27.7 per cent). The authors attribute the failures to delay of the operation and to insufficient extensive resection. ALDREY GOSS MORCAN, M.D.

Longacre J J. Experimental Total Pneumectomy. *J Thoracic Surg* 1935, 4, 587.

The author believes that healing of the bronchial stump is brought about by the peribronchial tissue. Any interference with the blood supply of the peribronchial tissue by rough and careless handling will impede healing and may lead to necrosis with the development of a bronchial fistula. Because of the meagreness of the blood supply to the peribronchial tissues healing of the bronchial stump is slow.

The ideal technique for closure of the bronchial stump is one in which meticulous care is taken not only to prevent infection but also to limit trauma

to the bronchus to the minimum and to avoid disruption of the normal continuity of structures about the hilum. The author reports experiments carried out on animals in which he modified the technique of Meyer. In the procedure followed the blood vessel were ligated separately. A traumatic division of the bronchus was done and the bronchial stump closed by inverting Cushing and mattress sutures. The sutures were introduced only through the peribronchial tissue care being taken to avoid penetrating the lumen of the bronchus and were tied only tight enough to approximate the tissues without strangling them.

Longacre found that when chronic catgut was used to close the bronchial stump the mortality was 75 per cent and the incidence of bronchial fistula 60.6 per cent whereas when fine and medium silk was used the mortality was 16.6 per cent and the incidence of bronchial fistula 5.5 per cent. Histological examination of the tissues revealed a marked inflammatory reaction about the catgut buried in the peribronchial tissue and only a slight reaction about the silk suture material. Silk was found to be well tolerated in the peribronchial tissue for long periods of time, becoming encysted in a fibrous capsule if the lumen of the bronchus was not penetrated.

FARE O. LATTIN, M.D.

Stern L. Putrid Abscess of the Lung Following Dental Operations. *J Thoracic Surg* 1935, 4, 547.

The author finds that pulmonary abscess occurs after dental operations more frequently than is generally believed. He states that it may develop after tooth extraction without aspiration of the tooth and is related directly to the dental operation. In a series of twelve cases of lung abscess occurring shortly after dental procedures there was no clinical or roentgenological evidence of tooth aspiration. In eight of the twelve cases local anesthesia was used.

The pharyngeal reflex is dulled unilaterally by two commonly employed nerve blocking injections, namely those for the inferior dental and those for the anterior palatine nerve. Therefore even during the course of an extraction under local anesthesia it is easy for material to pass into the trachea and to be aspirated into the bronchial tube. Saliva and blood may be aspirated during sleep after any extraction.

As preventive measures the author advises a meticulous toilet of the mouth especially of the teeth to be extracted. This should include high pressure irrigation of the interdental spaces, the use of dental floss and especially the careful removal of tartar from the teeth to be extracted. The patient should be prone during the extraction even if local anesthesia is used. Morning extractions are desirable as they allow maximum time for control of bleeding before the patient ordinarily sleeps. On the first day hypnosis should not be administered for the control of pain. An oxidizing mouth wash should be used after the extraction.

In conclusion the author recommends that all patients be seen three weeks after extractions for check

ing up of the interval history with reference to symptoms of pulmonary abscess

EARL O LATIMER, M D

Pinchun, A. J. S., and Morlock, H. V.: Lung Abscesses and Their Treatment. *Lancet*, 1935, 228
1369

The usual division of lung abscesses into acute and chronic types is an inadequate basis for treatment. The authors therefore classify them into the following four groups. (1) the pre-abscess stage of pneumonitis, (2) pyogenic abscesses, (3) putrid or spirochetal abscesses, and (4) multiple abscesses. Any one of these may be also of the gangrenous type.

On X-ray examination the simple abscess is manifested at first by a homogeneous shadow in the lung field. This may clear up, but later a darker circular area, due to cavitation, is usually seen in the center. At this stage there are the following three possibilities: (1) the cavity may close after drainage and the area of pneumonitis may disappear, (2) the area showing the cavity may rapidly extend until the whole area affected by pneumonitis becomes a cavity (liquefactive or simple gangrenous type), and (3) the cavity may remain, but may be surrounded by a condensed area seen as a limiting ring. The putrid or spirochetal type of abscess, if primary, breaks down rapidly. It presents a roentgen picture similar to that of the acute spreading pyogenic type but the patient's general condition is worse. However, if the spirochetal infection is secondary to a pyogenic abscess, there is often a primary localizing reaction and the progress of the lesion may be less acute.

A patient with lung abscess is usually very ill, with a high temperature, a rapid pulse, and expectoration. Loss of morale is often a marked feature of the condition. When pus is discharged, the temperature and pulse rate decrease. A continuously high or rising pulse rate usually indicates a spreading type of abscess with an unfavorable prognosis unless surgical treatment is given. In cases of simple abscess in its earlier stages there may be periods of normal temperature and no sputum which give the erroneous impression that healing has occurred. In cases of the gangrenous type of abscess there is always a profound toxemia.

For diagnosis, bronchoscopic investigation is essential in every case. This will reveal the position and type of the abscess and the presence of a foreign body, growth, or pressure obstruction. In some cases in which an abscess is suggested clinically but the roentgenogram is negative, bronchoscopic examination with lipiodol has proved the presence of an abscess. If surgical intervention becomes necessary, the exact position of the abscess must be known. Moreover, if postural drainage is to be employed it will not be efficient unless the bronchus which is draining the abscess is determined.

As treatment, the authors advocate the use of the bronchoscope even in the pre-abscess stage of pneumonitis. Bronchoscopic drainage with the instillation of 10 per cent gonemol oil in olive oil or lipiodol

and lavage with normal saline solution is often successful in causing resolution at this stage. To wait for an incipient abscess because it may resolve is to risk the formation of a large abscess before it is realized. No harm can result from bronchoscopic treatment if it is done properly. In gangrenous abscess of either the spirochetal or pyogenic type, medical or bronchoscopic treatment is useless. It is also dangerous because of the delay it causes. Bronchoscopy should be done first to fix the site of the abscess with lipiodol and then again the day before the operation to empty the cavity in order to prevent postoperative inhalation of the abscess contents. This drainage results in a marked temporary improvement in the patient's condition, but does not obviate the necessity for surgical treatment. In cases of simple pyogenic abscess, bronchoscopic drainage will usually effect a cure. The number of treatments required may range from two or three in acute cases to from fifty to sixty in chronic cases. The authors emphasize the necessity for absolute rest and a sanatorium regime whether the treatment is by postural or bronchoscopic drainage. In chronic cases, bronchiectasis may complicate the picture. Even in these, the patient may be kept fairly well by occasional lavage.

These principles in the treatment of lung abscess must be modified according to the site of the lesion. The apical upper lobe abscess, which is fairly common, is difficult to drain by either bronchoscopic or surgical treatment and, unlike abscesses lower down, cannot be compressed by a good amount of healthy lung. However, with the use of a curved spring steel stilette in a gum-elastic catheter and the operating bronchoscope, drainage may sometimes be accomplished. In the peripheral type of abscess there is danger of empyema. Mid-zone abscesses and abscesses in the hilus region are usually suitable for bronchoscopic drainage. For basal abscesses, which are difficult to diagnose and treat, bronchoscopic drainage is the procedure of choice.

When bronchoscopic drainage fails surgical measures are indicated. The most suitable cases for surgical drainage are those in which the bronchus of drainage is the dorsal branch of the lower lobe bronchus which supplies a posterior area and the wall of which is below the scapula. The mortality of lobectomy has been high, but with improvement in the techniques this operation may become the treatment of choice for lower and middle lobe abscess complicated by residual bronchiectasis. Phrenic avulsion is not recommended since, because of kinking of the bronchus, drainage is not so free after this operation. The induction of artificial pneumothorax usually means the production of an unlocalized empyema and is not used except perhaps in cases of abscess in the region of the hilus.

From their experience in the treatment of fifty-five cases, nine of which were referred to the surgeon, and in which the total mortality was 11 per cent, the authors conclude that every case of lung abscess should be watched and treated broncho-

scopically so that, if necessary, operation may be undertaken at the proper time

MAURICE P MEYERS MD

Lloyd M S The Early Classification and Early Diagnosis of Cancer of the Bronchus *New England J Med* 1935 213 101

The author suggests a simple classification of bronchial cancers based on the location of the tumor reviews the important symptoms physical findings roentgen findings and special diagnostic methods employed in the various groups of cases discusses the differential diagnosis and analyzes thirty one cases

The bifurcation of the trachea occurs in almost the exact geometrical center of the air bearing tissue of the lungs It has long been recognized that the degree of malignancy of chest tumors varies inversely with the distance from this center Therefore it appears that a simple classification of early bronchial cancers based on the position of the tumor in the chest would be of value in determining the presence operability, and prognosis of such neoplasms The author divides the chest into three zones—a central a middle and a peripheral zone—and gives the cause of the symptoms of bronchial cancer in these zones as follows central zone hilus infiltration middle zone bronchial obstruction peripheral zone centrifugal expansion

Early diagnosis of the less frequent types of hilar carcinomas is usually made accidentally on bronchoscopic examination

Hilus infiltrating cancers are the least common They arise from the trachea or stem bronchi and extend down the bronchial walls or vascular structures into the hilus glands or invade the surrounding tissue directly Because of the size of the airways, obstruction does not occur until late These characteristics explain the cardinal symptoms of sub sternal and shoulder aches and pains which are sometimes radiating and often very severe Later symptoms are cough difficulty in swallowing hemoptysis, dyspnea hoarseness and various gastric dysfunctions due chiefly to nerve involvement The roentgen signs include widening of the mediastinal shadow bulging of the tumor into the airways fixity and rigidity or deformity of the esophageal lumen shifting of the trachea toward the lesion accentuated radiating striations from the lung root and especially elevation of the diaphragm on the affected side

The bronchial obstructive cancers arise from the smaller bronchi Their prime manifestations are disturbances of the drainage of the portions of the lung distal to the lesion The disturbances vary from slight impairment of drainage to complete obstruction with atelectasis or pneumonia The distance of the lesion from the mediastinal structures delays involvement of other organs The earliest symptom is cough which is usually productive and often associated with the appearance of blood in the sputum A history of repeated colds with

chills and fever and never quite complete recovery is common The cough is generally accompanied by dyspnea and some degree of pain The roentgen findings are those of partial or complete atelectasis of a lobe or part of a lobe In the more advanced stages there may be cavitation Differentiation of the condition from tuberculosis and chronic pulmonary suppuration is necessary and usually possible

The cancer of the centrifugal expansive type arises in the soft tissue of the lung It is round and sharply defined until its growth is impeded by contact with a more solid structure usually the pleura or chest wall The earliest symptom is a heaviness or sense of oppression Later when the pleura or intercostal nerves become involved the pain may become sharp and stabbing Cough usually begins early, but is not distressing and may not be accompanied by hemoptysis Roentgen examination shows first a round shadow and later collateral infiltration effusion, atelectasis and possibly bone destruction

Of the special diagnostic methods the author discusses bronchoscopy, pneumothorax and thoracoscopy punch biopsy operative biopsy and bronchography Most important in the early diagnosis of bronchial cancer however are the alertness of the clinician in recognizing the early symptoms and signs and adequate roentgenograms to establish the indications for biopsy and a positive diagnosis

JAY EUGENE TREMONT MD

HEART AND PERICARDIUM

Fischer H Advances in the Field of Thoracic Surgery The Pericardium and the Heart (Fortschritte auf dem Gebiete der Thorachirurgie Herzbeutel und Herz) *Zentralbl f Chir* 1935 p 1128

Since the contributions of Volhard and Schmieden on the recognition and treatment of adhesive pericarditis the indication for the operation of cardiomyolysis has not changed However on account of the severity of the operation many have advised against it Lenormant recommends that the surgeon confine himself in general to Brauer's thoracotomy Fischer believes that the great pessimism which exist in regard to cardiomyolysis on account of its high mortality is not altogether justified because the operation comes up for consideration only in very serious cases in which the cardiovascular system is already greatly damaged In spite of many unsuccessful results the operation should be given due consideration as a last resort

During and after the operation every factor which may lighten the burden on the heart must be carefully considered Of first importance are measures to assure normal respiration Tearing of the pleura pneumothorax and compression of the lung borders on the rib stumps must be prevented Resection of the insertion of the costal arch into the sternum should be avoided because it disturbs the function of the diaphragm and abdominal muscles Before the

operation any hydrothorax which is present should be treated by drainage. The late results depend essentially on the condition of the heart muscle. As a rule heart function is still good when chest-wall symptoms are prominent. Absence or mildness of chest-wall symptoms indicates that the heart is not strong enough to pull the chest wall in even though adherent to it.

While simple thoracotomy is usually not sufficient, a two-stage operation with later cardiomyolysis is to be strongly recommended. Brauer's cardiomyolysis alone seldom results in cure as accretio and concretio cordis are usually associated. The author reviews the pericardiectomies which have been performed since Paessler's contribution. Experience has shown that recurrences do not develop if the, pericardiectomy is done in the right plane. In the estimation of the late results the extent of permanent damage from the congestive condition must be considered, and Paessler's observation that in many cases severe pericarditis has a rheumatic basis due to chronic foci of infection in the teeth and tonsils should be borne in mind. The removal of foci of infection is absolutely essential.

To prevent serious injury of the function of the heart the diagnosis must be established promptly. The diagnosis still presents difficulties. A new procedure for recognition of the condition is the pneumotachography described by Hochrein. This method may be of value in the differential diagnosis also in cases in which, in spite of the absence of clinical manifestations, the roentgenogram shows marked calcification of the layers of the pericardium.

With regard to the cause of pericarditis Fischer cites Paessler's theories. According to Goetze, the condition may be of traumatic origin, the result of an organized hematoma. For partial pericardial adhesions French surgeons recommend phrenic exeresis. Fischer believes that freezing of the nerve should always be tried before section.

In discussing the treatment of pericarditis, Hitzelberger warns that too rapid emptying of the pericardial effusion may lead to accidents. He advises posterior puncture through the pleura. When this is done the effusion can slowly trickle into the pleural space and damage to the heart lying against the anterior chest wall is avoided.

For decompression of the enlarged heart, Lenormant and Leriche recommend the formation of a window in the chest wall. Theoretical considerations justify this procedure as it not only provides more room for the heart as a whole but also prevents interference of with one part of the heart by another. Unfavorable results may be due to loss of support of the heart with its liberation.

When the heart is otherwise normal, the formation of a window in the chest wall is to be considered when there is a malformation of the chest such as infundibular thorax. In a new method of widening the chest which has been described by Sauerbruch the insertions of the fourth to eighth costal cartilages on the right and left sides are cut. Then, by means of

two linen tapes passed under it, the sternum is held forward until it grows to the ribs again.

Further progress has been made also in the treatment of valvular defects of the heart. In severe mitral stenoses and congenital stenosis of the pulmonary artery, operation comes up for consideration.

In experiments on animals Leriche and Fontaine obtained good results by implanting a flap of a pectoral muscle into a muscle defect in the left ventricle. It is suggested that cardiac infarcts in man may be corrected in the same way.

As characteristic signs of myocardial tumors, the author cites the striking enlargement of a single portion of the heart and the absence of pulsation in the region of this enlargement.

When cardiac injury is suspected immediate operation is indicated. As suture material, silk is recommended. The mortality after cardiac suture is between 50 and 60 per cent. To reduce the damage from shock to the heart, morphine is recommended. Deaths occurring in the absence of an appreciable loss of blood or of compression in the pericardium are attributed to irritation of the pericardium, epicardium, and endocardium.

In commotio cordis induced experimentally Schlomka and Schmitz found acute traumatic dilatation of the heart a constant sign. To relieve the heart in this condition venepuncture is advisable. Peripheral stimulants should not be employed.

(SCHMUTZLER) PHILIP SHAPIRO, M.D.

ESOPHAGUS AND MEDIASTINUM

Guisez, J.: The Relative Frequency of Various Affections of the Esophagus According to a Statistical Study of Cases Observed in the Last Ten Years (*Fréquence relative des différentes affections de l'oesophage d'après la statistique des cas observés dans ces dix dernières années*) *Bull. et mém. Soc. d. chirurgiens de Par.*, 1935, 27, 331.

The author reviews 946 cases of esophageal conditions. Only 41 of the patients were children. Thirty-five of the children were suffering from cicatricial stenosis due to the ingestion of a caustic. There were no cases of syphilis of the esophagus. In 565 cases the lesion was a cancer. Cancer was 5 times more common in males than in females, and occurred most frequently in the middle and lower portions of the esophagus. It was found in the upper portion in only 18 cases. In all but 28 cases it had reached an advanced stage. Radium irradiation is advocated for curative and palliative treatment.

Next in frequency to cancer was spasm with contraction and sometimes inflammatory stenosis, of which there were 259 cases.

Diverticula were found in 26 cases, 5 those of females. The most satisfactory treatment was surgical removal in 2 stages.

Of the patients with cicatricial stenosis, 38 were adults.

Among the rarer types of lesions were 1 typhoid and 2 post-scarlatinal stenoses.

There were 8 cases of congenital stenosis and 6 of stenosis due to external compression of the esophagus

Varices of the esophagus were found in 5 cases

There was 1 case of paralysis of the esophagus without stenosis which developed after diphtheria

NATHAN A. WOMACK, M.D.

MISCELLANEOUS

Feldman, L., Trace, I. M. and Kaplan, M. I.
Eventration of the Right Diaphragm. Report of a Case with a Review of the Literature Chiefly from the Standpoint of Etiology and Diagnosis. *Ann Int Med* 1935 9 63

The term 'eventration' is used by the authors to designate an abnormally high position of one half of the phrenic leaf due to congenital aplasia or acquired atrophy of the muscle fibers of that half of the diaphragm. The unduly expanded leaflet is intact and its position is permanent. The abdominal viscera are displaced upward.

In the majority of cases the condition is found on the left side. Over 100 cases of left sided eventration have been reported. Right sided eventration is much less common. The authors believe that the case they report is the tenth to be described. They

state that recognition of this abnormality is important in the differential diagnosis of conditions above and below the diaphragm such as pleural effusion, empyema, lung abscess, paralysis of the diaphragm, diaphragmatic hernia, and liver abscess. In pregnancy there is danger of the rupture of an eventrated diaphragm.

Symptoms of eventration of the diaphragm are variable, not distinctive and usually lacking. The most valuable physical sign of the condition is the Hoover sign—an exaggerated inspiratory divergence from the median line of the entire costal margin on the affected side elicited with the patient in the recumbent position. Roentgen examination is diagnostic. In all cases of right sided eventration in which roentgen studies were made with an opaque meal displacement of some part of the bowel was found. In the authors case there was evidence of inactivation of the right half of the phrenic leaf (Hoover's sign) and roentgerograms made after an opaque meal and after a barium enema with the patient in the recumbent position showed the dome of the diaphragm in the form of an arched line. The displaced portion of bowel was found between the right diaphragm and the liver, a location unlike that in most cases reported.

WALTER H. NADLER, M.D.

SURGERY OF THE ABDOMEN

GASTRO-INTESTINAL TRACT

Anagnostidis, N.: Volvulus of the Stomach (Volvulus de l'estomac) *Rev. de chir., Par.*, 1935, 54 515

After reviewing the history of volvulus of the stomach the author reports a case of the condition. In this case the spleen, which was very large, was found in the right lower quadrant of the abdomen and the stomach was rotated 180 degrees from left to right. Along the lesser curvature of the stomach there was a gangrenous area. The spleen was removed, the stomach rotated back into place, and the gangrenous area resected. The patient died eight hours later.

In the literature the author has been able to find reports of 116 cases of volvulus of the stomach. Sixty-three of the subjects were women. The incidence of the condition was highest (28 per cent) between the ages of forty-one and fifty years.

All or only a part of the stomach may be rotated. Partial torsion involves only the pyloric end. The torsion may be: (1) around the axis from the pylorus to the cardia, the so-called organo-axial or pyloro-cardiac volvulus, (2) around the axis from the greater to the lesser curvature, the so-called mesenterico-axial volvulus or volvulus on the axis of the lesser curvature, or (3) of a mixed type. Of 108 cases in which the volvulus was described in detail, it was of the organo-axial type in 57 (52.7 per cent), of the mesenterico-axial type in 45 (41.6 per cent), and of the mixed type in 6 (5.5 per cent).

In the organo-axial type the greater curvature may turn forward and upward. When the torsion reaches 180 degrees the posterior wall of the stomach comes into contact with the anterior abdominal wall. This is called an "anterior" or "isoperistaltic" volvulus. Less frequently the torsion is in the opposite direction, a "posterior," "antiperistaltic" or "anisoperistaltic" volvulus. In the mesenterico-axial volvulus the pylorus usually moves forward and to the left while the cardia moves posteriorly and to the right. Less frequently, the pylorus moves posteriorly and to the left, and the cardia forward and to the right.

Volvulus of the stomach is associated with occlusion of the orifices of the stomach, venous congestion, distention of the organ, a serosanguinous peritoneal exudate, and occasionally gangrene and perforation.

The etiology is not clear. In 43.9 per cent of the 116 cases recorded in the literature the condition was described as idiopathic. Predisposing factors are a rapid loss of weight with relaxation of the abdominal wall, nervousness, pregnancy, gastric atony, congenital or acquired abnormal mobility of the stomach and colon, inflammatory adhesions, diaphragmatic hernia, gastric neoplasms and ulcers, and displacements of neighboring organs.

Symptomatically, the condition may be classified as acute, chronic, or intermittent. Acute volvulus is associated with the following signs and symptoms: (1) a desire to vomit without being able to do so; (2) gaseous distention limited to the gastric area; and (3) the impossibility of passing an esophageal sound or a stomach tube into the stomach. The condition occurs suddenly with intense pain localized in the epigastrium. As a rule it is accompanied by elevation of the diaphragm, displacement of the heart, dyspnea, and signs of shock.

Chronic volvulus is usually partial, involving only the pyloric end of the stomach. The symptoms are those of long-continued indigestion suggestive of ulcer, gastritis, or carcinoma.

In the intermittent type of gastric volvulus the clinical picture consists of a series of attacks similar to, but less intense than, those occurring in the ordinary acute type.

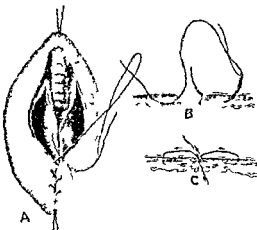
The diagnosis is usually easy if the condition is borne in mind. The treatment is surgical.

MAX M. ZINNINGER, M.D.

Martzlott, K. H., and Suckow, G. R.: Wound Healing After Anterior Gastro-Enterostomy. II. The Fate of Mucosal Inclusions and Their Prevention; Description of a New Suture Technique. An Experimental Study in Dogs. *Arch. Surg.*, 1935, 31 10.

The results obtained by the authors in experiments on twenty dogs confirm their previous observation that suture methods which tend to evert the mucosa into the line of apposition in gastro-intestinal anastomoses cause mucosal inclusions with appreciable frequency. These inclusions persist, as they were found ninety days after the operation, and when they do not establish a communication with the gastro-intestinal lumen they may form cysts of considerable size. In some specimens these inclusions were accompanied by inflammatory phenomena after a ninety-day period of healing, whereas anastomoses not complicated by mucosal eversion showed almost complete absence of inflammatory phenomena after a healing period of twenty days or less.

The authors describe a simple and practical two-layer anterior suture method which avoids eversion of the mucosa and trauma to the mucosal margins and at the same time controls capillary oozing and permits rapid and uncomplicated healing. This procedure, which they have not seen described before, is a two-layer serosubmucosal suture. The catgut suture (No. 00 plain) used posteriorly as the innermost layer is continued anteriorly as the innermost anterior layer to unite the stomach and intestine. The suture is carried on a fine curved or straight intestinal needle which is always directed



A The authors two-layer serosomucosal suture used anteriorly with an ordinary serosubmucosal suture used posteriorly the mucosa not being sutured. B and C Cross section of the authors suture. The anterior suture layer in A is drawn up more closely than is illustrated in A and C so as to cause serosal inversion. It is reinforced by a layer of Halsted mattress sutures which are not shown in the illustration.

obliquely toward the cut edge of the opening and in the direction of the unsutured defect. The needle, introduced about 0.5 cm. from the cut edge of the viscus and penetrates only to the outermost layers of the submucosa. It is brought out at the cut edge of the viscus so that it pierces the muscularis and avoids the cut edge of the mucosa. When the suture is tensed, it brings the cut edges of stomach and intestine together as shown in the illustration. Further tension inverts the serosa, and still further inversion is effected by a row of Halsted silk mattress sutures which complete the procedure. For the posterior suture the method is impracticable because it does not produce sufficient hemostasis and is difficult to place accurately. For this stage of the anastomosis the usual through and through circular suture or the lockstitch is recommended as these do not cause the undesirable complications that may occur in the anterior suture.

The authors' previous observations with regard to the use of silk suture material in gastro-enterostomy were also confirmed by the findings of the experiments reported in this article. It was found that when silk sutures are so placed that they do not penetrate the mucosa they are ideal as the inflammatory reaction they produce is minimal whereas if they penetrate the intestinal mucosa as they occasionally do even when introduced with care they become complicated by infection and inflammation and often by mucosal inclusions, all of which may persist for ninety days or longer. The authors therefore doubt the advisability of using silk suture material in gastro-intestinal anastomosis.

ARTHUR S. W. TOURKOFF M.D.

Englund F. and Wahlgren F. A Clinical Case of Cystoid Pneumatosis of the Intestines (Fall von Pneumatosis cystoides intestinorum beim Menschen). *Acta chirurg. Scand.*, 1935 76 601.

The case reported was that of a woman thirty-nine years old who gave a two-year history of periodical abdominal symptoms suggesting gastric ulcer. Operation performed following a diagnosis of gastric ulcer with pyloric stenosis disclosed over the lower most coil of the small intestine extensive conglomerations of gas filled vesicles on and underneath the serous layer. This part of the intestine which presented both macroscopically and microscopically the typical appearance of pneumatosis cystoides in testum was resected and a Billroth II resection of the stomach was done. After convalescence for two months the patient was discharged with a gradually abating fever, anemia, and leucocytosis. After a little more than a year she had completely recovered.

The authors discuss the clinical picture, pathogenesis and diagnosis of the disease. They believe with Naeslund that the condition is due to infection.

Gräberger G. The Roentgen Picture of Cystoid Pneumatosis of the Intestines (Beitrag zur Kenntnis des Roentgenbildes bei Pneumatosis cystoides intestinorum). *Acta radiol.* 1935 16 439.

There is nothing in the clinical picture of cystoid pneumatosis of the intestines that is especially characteristic. In all of the cases reported heretofore the diagnosis was made at operation or autopsy. However, in isolated cases the condition may be suspected when a firm, elastic tumor without dullness over it can be palpated in the abdomen.

The gas formations frequently occur in mobile portions of the intestine which in the upright position become displaced upward between the liver and the diaphragm. The condition may produce intestinal stenoses or ileus or may be manifested by the syndrome of free gas in the abdomen.

The author reports a case in which the diagnosis was made by roentgen examination. In the left flank between the crest of the ilium and the costal arch there was a gas containing area about the size of the palm of the hand which had a peculiar alveolar structure and showed everywhere, up to the subperitoneal layer of fat in the flank, a completely smooth uniform line of demarcation. The diagnosis was confirmed on resection of the involved portion of intestine.

LOUIS NEWELL M.D.

Miller R. and Gage H. G. Chronic Duodenal Ileus in Infancy and Childhood. *Lancet* 1935 229 115.

The authors discuss chronic duodenal ileus due to ante- or enteric compression as a cause of symptoms in early life. They believe that the gastric symptoms are due to congenital anatomical compression and gastric distention and that gastric distention is the cause of the more urgent symptoms of obstruction even in the cases of newborn infants. The vomiting of bile is exceptional. The character

are frail and underweight. The chief symptoms are a persistent lack of appetite and periodical attacks of vomiting. A rather characteristic symptom is hiccups. There is a tendency toward diarrhea rather than constipation. The most characteristic physical sign is protuberance of the upper part of the abdomen due to the enlargement and hypertrophy of the stomach. Roentgenographic examination serves to distinguish between complete and incomplete duodenal obstruction and excludes the pylorus as the site of the obstruction. For the best results from roentgen examination the opaque meal must be considerably larger than that usually employed for children of the same age and marked gastric dilatation must be relieved before the examination is undertaken.

In discussing the cases of newborn infants the authors state that absence of bile in the vomitus does not exclude the presence of chronic duodenal ileus, and the persistent presence of an excess of mucus in the vomitus in a case of chronic vomiting signifies obstruction at the pylorus or in the duodenum. In the roentgen examination the opaque meal should be large and given immediately after the stomach has been thoroughly washed out. Serious vomiting can be stopped by gastric lavage. For this purpose the authors use a dilute solution of sodium bicarbonate. They state that gastric lavage should be done at first every twelve hours, but when the washings have become clearer the intervals may be increased to twenty-four, thirty-six, and forty-eight hours. Thereafter, lavage should be done every two or three days for about three months.

In late infancy and early childhood, constant hiccup, enlargement and protrusion of the stomach, visible peristalsis, and a persisting splashing suggest stasis and obstruction. These conditions can be demonstrated by roentgen examination with an opaque meal. In the treatment of the ileus it is essential to separate ingested fluids from solid food as much as possible and the meals should be well spaced apart. A mixed diet slightly low in fat should be given. The food should be minced and as dry as is palatable. Fluids should be given about three hours after meals. In the early stages a mixture containing $\frac{1}{2}$ drachm of glycothymolin, rhubarb, and soda is of great value. Later, hydrochloric acid drinks may be allowed with meals. The use of paraffin as an aperient should be avoided. Massage and ultraviolet light may be helpful. Exercise and fresh air are beneficial. As a rule operation is not advisable. The prognosis is good.

EMIL C. ROBITSHEK, M.D.

Romualdi, P.: External Duodenal Fistula. A Clinical Study Based on 137 Cases, Including 4 Personal Cases (La fistula duodenale esterna. Studio clinico-critico basato su 147 casi di cui 4 personali). *Riv. osped.*, 1935, 13.

Of the 137 fistulas reviewed by the author, 7 were spontaneous and 130 followed operation. The treatment and results are summarized in a table.

In 50.3 per cent of the cases the fistula followed disease of the stomach or duodenum; in 38.2 per cent, disease of the biliary tract; in 9.4 per cent, a right nephrectomy; and in 7.5 per cent, appendicitis or an unrecognized condition.

Factors of great importance in the pathogenesis of duodenal fistula are sutures of poor quality, sepsis in the field of operation, and obstruction in the duodenum. Obstruction may be due to the disease for which the operation was performed. From his clinical and physiological observations the author concludes that the pancreatic juice is not a cause of the formation of duodenal fistulas and that drainage, if properly done, is of only secondary importance in their development. He states that the factors mentioned do not explain all cases. It is possible that in some cases of operation for septic disease, acute appendicitis for example, an embolus originating from the field of operation may cause perforation of the duodenum. The pathogenesis of certain late fistulas is entirely unexplained.

An external duodenal fistula causes changes in the blood similar to those occurring in intestinal occlusion, that is, total hypochloremia, retention of urea nitrogen, and increasing alkalosis.

Total loss of gastric juice or pancreatic juice is fatal. When the loss of either or both of these fluids reaches a certain point, which is not definitely known, death results. In some fatal cases the loss of fluid and sodium chloride responsible for the blood picture is not sufficient to explain death although the administration of water and salt prolongs life.

The mortality in the 137 cases reviewed was 31.8 per cent. Contrary to the opinion of many, the external duodenal fistula usually tends toward spontaneous cure. As in the great majority of cases it follows a surgical procedure, it is best prevented by care in operation. Its treatment may be conservative or surgical. In serious cases in which it is necessary to stop the loss of digestive fluid at once the best method is direct suture of the fistula. If this fails or if it would be too severe a tax on the patient's strength, some other type of operation may be done. The procedure of choice is probably that of Berg—gastro-enterostomy with exclusion of the pylorus. This, however, is only palliative.

The cases may be divided into mild, severe, and chronic. The mild cases, which are in the majority, tend toward cure. In severe cases direct suture of the fistula is best, but in some of them Berg's operation or intubation may be indicated. In chronic cases exclusion of the fistula should be tried first and if this fails, direct suture should be done. In severe cases the chlorine balance should be restored by the administration of large amounts of physiological salt solution.

AUDREY GOSS MORGAN, M.D.

Zobel, A. J., and Susnow, D. A.: Melanosis Coli: Its Clinical Significance. *Arch. Surg.*, 1935, 30: 974.

Melanotic pigmentation of the large intestine has been observed only occasionally. In 1858, Virchow.

on the basis of his autopsy observations applied the term 'melanosis coli' to the condition. Sigmoidoscopic examination shows that the pigmentation of the mucosa varies widely in different persons. It is usually some shade of brown, ranging from a light almost gray, tone to a deep dark hue, almost inky black. It tends to be deepest in the cecum and ascending colon. Frequently there is an associated mucous colitis. The appearance of the mucosa of the bowel has been compared to that of snake skin, crocodile hide, tiger skin, and a cross section of nutmeg. Microscopic examination shows that the pigment is confined largely to the stroma of the mucous membrane where it lies in the cytoplasm of the large mononuclear cells. In mild cases it is usually in the mucosal villi.

The pigment is generally believed to be a true melanin or melanin like substance. Virchow suggested that it might have a hematogenous origin. Recently Bokus investigated the etiological relationship of the anthracene laxatives to melanosis coli. He concluded that these laxatives either contain or elaborate within the bowel a pigment which is phagocytized by the deep mucosal cells with the resulting production of melanosis coli. Constipation and chronic intestinal stasis appear to be predisposing factors.

Of 200 patients subjected to sigmoidoscopic examination the authors found melanosis coli in 7 (3.5 per cent). All of the 7 had suffered from constipation and had taken cascara sagrada over a long period of time.

The pigmentation usually partly disappears when the anthracene laxatives are stopped and proper diet and medication are instituted. Melanosis coli is not injurious to health. JOHN W. ALLEN, M.D.

Dominici, L. The Surgery of the Colon Exclusive of Operations for Tumors and Cysts and on the Appendix (La chirurgia del colon esclusi i tumori le cisti e l'appendice). *Arch Ital di chir.* 1934 33 782.

Dominici reviews briefly our knowledge of the physiology of the colon and then takes up in considerable detail the various pathological conditions of the colon and their treatment.

For congenital and acquired malformations of the colon—adhesions, membranes, malpositions and maldevelopments—he advises expectant treatment for a time and if this fails operation. In discussing megacolon he calls attention to the successful results sometimes obtained by lumbar sympathectomy. With the exception of this procedure, colectomy with or without preceding entero-anastomosis is the most satisfactory treatment of true megacolon.

Dolichocolon in itself requires no treatment but if it causes severe constipation or crises of pain, resection should be performed as a rule. In some cases, however, colectomy is preferable.

In stenosis enteroplasty may be successful, but in some cases anastomosis or colectomy may be necessary.

For spastic colon the author recommends exclusively medical treatment.

Intestinal stasis must be treated according to the cause. The latter may be mechanical or functional. In cases of chronic intestinal stasis due to mechanical or anatomical causes surgery has an important place. The nature of the obstruction may present a complicated diagnostic problem. In general, functional stasis lies outside the field of surgery, yet in cases in which it progresses under medical management operation as a palliative measure should be considered.

Injuries of the colon are in general surgical emergencies and usually have a high mortality. The author discusses particularly injuries to the rectum from compressed air.

Colitis requires much more study. Acute colitis which is not an acute surgical emergency or complicated by peritonitis is best treated by appendectomy or preferably, colostomy. In chronic colitis permanent colostomy usually yields the best results. In exceptional cases resection of the colon may be indicated.

The author discusses in considerable detail in inflammations of the colon, particularly tuberculous inflammation. He states that in ulcerative tuberculous colitis entero-anastomosis is often prevented by the difficulty in finding healthy tissue for suture. Therefore simple laparotomy may be the only procedure possible. In cases of multiple localized lesions entero-anastomosis or cecostomy may be performed.

In localized tuberculosis with hypertrophy the operation of choice is resection. However, before this operation is undertaken the general condition should be considered. In an exceptional case of enteropentostitis radical removal may be indicated but as a rule a palliative side tracking procedure is preferable.

In discussing diverticulitis and diverticulosis the author states that when the diverticula are not inflamed or perforated they should be left alone. When operation is indicated, resection is preferable to a minor palliative procedure.

For volvulus and invagination of the colon he recommends early resection.

Polyposis is best treated according to its cause. In parasitic polyposis the treatment should be specific. In the inflammatory type some side tracking operation with lavage of the colon is advisable. In localized essential polyposis excision or electrocoagulation is indicated. For general polyposis there is no worthy home treatment.

The rest of the article deals with the technical aspects of surgery of the colon, especially sympathectomy for megacolon and dolichocolon.

LESLIE T. LEECH, M.D.

Orley, A. The Roentgenological Diagnosis of the Diseased Appendix. *Brit J Radiol.* 1915 8 457.

The bismuth filled appendix was demonstrated by Declere as early as 1905. For roentgenological

examination of the appendix the patient must be properly prepared. Thorough evacuation of the appendix by a suitable purgative given either before or with the barium meal is essential. Manual palpation under the screen should be done and followed by roentgenography.

Three types of appendices are described: the fetal form, inserted in the lower pole of the cecum, an appendix with a similar insertion but a uniformly narrow lumen, and the usual form inserted at the inner side of the cecum. The appendix may vary from 2 to 12 in in length, but frequently the short appendix is due to kinking or disease. The motility of the appendix can often be studied fluoroscopically. As the normal appendix is freely movable, fixation is of important diagnostic significance. Tenderness of the ileocecal region is not pathognomonic of disease of the appendix, but tenderness over the visualized appendix or, when the appendix is not visualized, over the inner border of the cecum and moving with the cecum, constitutes the most dependable diagnostic finding. Other important roentgen findings are various deformities of the lumen, kinks, and fixation. These are of clinical importance when accompanied by a functional disturbance and especially when associated with tenderness. Appendicular stasis, also an important finding, usually involves the distal portion of the appendix and may be associated with stasis of the cecum either primarily or secondarily. Although non-filling of the appendix is sometimes caused by non-pathological conditions, it is frequently indicative of appendiceal disease. The most pronounced pathological changes are found in the group of appendices which are not visualized on repeated examinations after proper preparation of the patient.

EARL E. BARTH, M.D.

Titone, M.: Changes in Gastric Function in Relation to Appendicitis (Modificazioni della funzionalità gastrica in rapporto con l'appendicite) *Arch. ital. di chir.*, 1935, 40, 1.

The author reports a study of gastric function made both before and at least twenty days after appendectomy in twenty cases of appendicitis. From his findings he concludes that when there is no inflammation around the stomach or duodenum, the gastric disturbances in appendicitis are related to a disturbance of the vagosympathetic system caused and maintained by a usually subacute or chronic inflammation involving not only the appendix but also some other abdominal organ, as a rule an organ in the right side of the abdomen. This disturbance, which is often favored by a constitutional condition (vagotonia), produces a gastric syndrome based usually on hyperchlorhydria and hypermotility, but sometimes, though infrequently, on hypochlorhydria and hypomotility.

When the symptoms are caused by hyperchlorhydria and are maintained by inflammation of the appendix, simple appendectomy gives good results if it is performed early.

EUGENE T. LEDDY, M.D.

Lockhart-Mummery, J. P., and Lloyd-Davies, O. V.: The Operative Treatment of Fibrous Stricture of the Rectum. *Brit. J. Surg.*, 1935, 23, 19.

Simple or fibrous strictures of the rectum can be divided roughly into two main types, tunnel strictures and ring strictures. The fibrous type result from the contraction of scar tissue caused by injury or severe inflammation in the rectal wall or the tissues immediately around it. The contracting scar may be localized at one particular part of the rectum and may be the result of accidental or operative trauma, a localized ulcer or abscess, or a general inflammation of the rectum and surrounding tissues. Any of the ordinary types of septic infection may account for it, also certain more or less specific types of infection such as gonorrheal infection of the rectum, tertiary syphilis, and lymphangitis inguinale. However, it is now generally agreed that syphilis is a very rare cause and that anti-syphilitic treatment seldom results in improvement. Whatever the cause, the condition confronting the surgeon is the late result of an old inflammation.

To ascertain the type and extent of the stricture it is usually advisable to induce low spinal anesthesia and then partly to dilate the stricture so that its upper limits can be explored and the condition of the bowel immediately above it ascertained. As a rule a fine-bore sigmoidoscope can be passed through the stricture. Great care must be exercised not to split the rectal wall and set up a perirectal inflammation. Before any operative attack upon the stricture the severe local sepsis must be cleared up so far as possible. The stricture should be dilated as much as is safe and treated by frequent douching with mild antiseptics. In severe cases, a preliminary temporary colostomy will be necessary.

ANNULAR DIAPHRAGMATIC STRICTURES

In cases of annular diaphragmatic stricture the choice of treatment will depend largely on the situation of the stricture. If it is located at the anus or in the lower part of the rectum, below the peritoneal reflection, it can be dealt with comparatively easily. The best method is internal proctotomy and dilatation. The stricture is nicked with a blunt-pointed knife in several places posteriorly and laterally, but not anteriorly, and then rapidly dilated up a diameter of 1 in. with metal dilators. The rectum is then washed out with an antiseptic solution and partly filled with sterilized vaseline. A large rectal tube of 1 in. in diameter is inserted into the rectum to a point beyond the stricture site and left in position for two days. Thereafter the stricture is kept dilated by first daily and then weekly and finally monthly dilatations.

The results of internal proctotomy are excellent and permanent if the patient will endure the inconvenience of dilating the site of the stricture long enough to counteract the tendency toward recurrent contraction in the scar tissue. This method is not applicable when the stricture is very high up and near or above the peritoneal reflection, as under such

conditions it would be associated with serious risk of tearing the bowel into the free peritoneal cavity. High strictures are best treated by resection or colostomy or by the author's new plastic method

TUNNEL STRICTURES

Tunnel strictures cannot be dealt with by internal proctotomy. Dilatation of such strictures is very unsatisfactory. The alternatives are permanent colostomy, resection of the strictured portion of the rectum, and, in suitable cases, the operative method described by the authors. In most cases the first step is a temporary colostomy.

The best method of resecting a rectal stricture is the operation devised by Hartmann. After removal of the coccyx the rectum is exposed through a posterior incision. The bowel is then divided above the stricture and dissected out to the skin margin at the anus with care to avoid injury to the sphincter. The proximal end of the colon is brought down and fixed to the skin at the anal margin.

The chief difficulty in this operation is to get the parts sufficiently free from sepsis. However, a preliminary colostomy followed for some weeks or months by frequent irrigation of the strictured bowel from the lower colostomy opening will often clear up the septic condition enough to make resection possible. Even then the operation is difficult because of the perirectal inflammatory scar tissue.

NEW TECHNIQUE

The new procedure described by the authors was devised by them as an alternative to Hartmann's method of resecting the stricture. It has the merit of being both safer and simpler but is applicable only to cases in which free access to the strictured site is possible. As it does not involve opening of the peritoneal cavity it is very much safer than a resection operation. The case in which it was first used was that of a woman thirty-two years old who developed a severe rectal stricture following a difficult delivery. After various unsuccessful attempts to dilate the stricture a colostomy was performed in the pelvic colon. Later the patient was very desirous of getting rid of the colostomy opening. Examination revealed a tubular stricture 3 in. in length in the middle and upper part of the rectum. The mucous membrane lining the stricture was ulcerated but the membrane above and below the stricture was normal. The ulceration was healed in three weeks by the introduction of 4 oz. of a 5 per cent suspension of bismuth subgallate in cotton seed oil into the lower colostomy opening each night and washing through it each day a solution made by adding 1 drachm containing equal parts of sodium chloride, sodium bicarbonate and boric acid powder. The operation was performed under spinal anesthesia. With the patient in the Sims position the rectum was first thoroughly washed out with a weak antiseptic solution. An incision was then made in the midline posteriorly from a point over the lower part of the sacrum to a point just behind the anal

orifice. The coccyx was excised and the post rectal fascia divided. The rectum was then freely mobilized by stripping it a considerable amount of dense side. The division of a considerable amount of dense fibrous tissue was necessary before the rectal stricture could be brought down. The stricture was divided longitudinally into the rectum. The incision being extended into healthy bowel both above and below the narrowed portion. The rectum was then drawn open with tissue forceps placed on the edges of the rectal wound in the middle of the longitudinal incision. A large rubber tube was passed into the rectum through the anus so that its upper end was well above the stricture site. The incision into the rectum was then closed transversely by interrupted catgut sutures with the knots on the mucous side and covered by a second line of Lembert sutures. The skin was stitched over the line of suture and the skin closed. A small drain was placed in the upper part of the wound. The drain was removed after twenty-four hours and the rectal tube after four days. A small sinus persisted for a few weeks but ultimately satisfactory healing occurred. On examination four months later the rectum was found still well dilated and no sign of stricture was observed. The colostomy was closed intraperitoneally. Today one year after the closure of the colostomy, the function of the bowel is normal.

In conclusion the authors state that they have been unable to find any description of a similar operation for fibrous stricture of the rectum. The procedure is much less severe than resection of the rectum and is not particularly difficult. It has the great merit of leaving the patient with a normally functioning rectum and perfect control as there is no damage to the muscles of the anal opening. Successful results require the clearing up of all local sepsis before the operation is undertaken. A temporary colostomy seems advisable. *JOHN W. HARRIS M.D.*

Chène P. and Dubarry J. Hemorrhoids and Sclerosing Treatment (*Hémorroïdes et traitement sclérosant*) *J. de méd. de Bordeaux* 1935 112 555

Before describing their method for the sclerosing treatment of hemorrhoids the authors briefly discuss the diagnosis and complications of the condition. External hemorrhoids which are always covered by skin rarely cause clinical manifestations unless thrombosis occurs. Thrombosis is best treated by early radial incision with enucleation of the clot. Uncomplicated internal hemorrhoids are usually accompanied by congestion with proctitis which may be manifested by occasional lancinating pain and pruritus. The common complications of internal hemorrhoids are hemorrhage and prolapse. The latter often associated with strangulation and thrombosis. Examination by inspection, palpation and the use of the proctoscope and anoscope is described in detail. The diagnosis of the complications is discussed and methods of conservative treatment especially local applications are reviewed.

The authors recommend that the vast majority of internal hemorrhoids and certain irreducible and strangulated prolapsed hemorrhoids be treated by the injection of a solution causing sclerosis. The method they use is similar to that described by Bensaude, consisting of the injection of 2 or 3 c cm of a 5 per cent solution of quinine and urea hydrochloride. They prefer to introduce the solution into the submucous tissue around the hemorrhoid rather than into the vein. The subsequent fibrosis produces a physiological ligation of the vessel. It is important to avoid injecting the solution too superficially or in the median line either anteriorly or posteriorly. The frequency of the injections will vary, but as a rule the authors do not give more than two a week. The number required is likewise variable, in some cases two or three being sufficient whereas in others from eight to twelve are necessary. Contraindications are pregnancy and acute local conditions such as fissure and marked inflammation. Following the treatments careful examination should be made with the anoscope. The authors stress the fact that the patients may return to work the same day the injection is made. NATHAN A WOMACK, M D

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Colp, R., Doubilet, H., and Gerber, I. E.: The Relation of Cholecystitis to Pathological Changes in the Liver. *Ann Surg.*, 1935, 102: 202

The relation of inflammation of the gall bladder to concomitant pathological changes in the liver is still a subject of controversy. While some believe that cholecystitis is the result of hepatitis, others are of the opinion that the hepatic changes are secondary to the disease of the gall bladder and a third group hold that inflammation of the gall bladder and pathological changes in the liver are independent of each other.

The authors report a study of the relationship of disease of the gall bladder to disease of the liver with special reference to the finer cytological changes in the liver. Sections of liver taken from deep within the organ were studied in order to obviate the criticism that sections from the surface cannot be taken as an index of changes occurring throughout the organ. The gross pathological changes in the liver, gall bladder, and bile ducts were carefully noted at operation. The gall bladder was aspirated and retrograde cholecystectomy was done when indicated. After its removal, the gall bladder was fixed by filling it with formalin and then cut longitudinally. Sections were studied with the finer staining methods. Specimens of liver were taken from the dome of the right or left lobe with the Hoffman biopsy punch at a depth of about 3 cm. Over 100 specimens were thus obtained with no untoward effects traceable to the procedure.

The authors attribute great importance to changes in the mitochondria in the cells studied. The mitochondrial stains were found more reliable in the

demonstration of cell degeneration than hematoxylin and eosin.

In forty cases of cholecystitis, acute and chronic, in which jaundice was not present at the time of operation no changes in the liver parenchyma were found by the finer cytological studies. The hepatic changes in this type of case reported by many were not demonstrated. However, in a series of cases with jaundice due to obstruction of the common duct by stone, one case of acute cholangitis, and seven cases of obstructive jaundice due to a malignant tumor of the biliary tract or the head of the pancreas the process of cell destruction could be verified by the alterations of the mitochondria. The changes were observed only in the vicinity of the bile capillary thrombi and were due to changes incident to obstruction. They bore no relationship to the changes occurring in the gall bladder. The extensive necrosis of liver cells reported by some observers was not observed in this study.

HARRY W. FINE, M D.

Hillingsworth, C. F. W.: Carcinoma of the Gall Bladder. *Brit J Surg.*, 1935, 23: 4

The surgical importance of carcinoma of the gall bladder, as a grave and generally fatal sequela of calculous cholecystitis, requires no emphasis. The condition is far from rare. At the Edinburgh Royal Infirmary it was found in 0.42 per cent of the autopsies performed and in 2.8 per cent of all cases of malignant disease treated during the last sixteen years.

All observers agree that a large proportion of the cases are those of women, and that the condition is most frequent between the ages of fifty and sixty-five years. Before the age of forty it is rare.

The presence of embryonic rests has rarely been suggested as a cause of carcinoma of the gall bladder except in connection with the uncommon squamous-cell epithelioma, and even this tumor can be explained more convincingly on other grounds. That simple papillomas bear an important relationship to carcinoma is highly improbable. However, there are rare cases of multiple papilloma which appear to form an intermediate link between the simple tumor and the papillary type of malignant growth. A definite relationship between gall stones and carcinoma of the gall bladder is very evident. The risk of the development of carcinoma in patients with calculous cholecystitis is great. From the clinical standpoint, therefore, the aim must be to prevent the occurrence of carcinoma by early operation for gall stones. Since carcinoma may arise even after removal of the stones, the only certain method of prevention is cholecystectomy.

A recent summary of all of the literature on the experimental production of carcinoma of the gall bladder which was made by Burrows indicates the need for caution in assessing previous experimental findings. The claims of certain investigators that they have produced carcinoma of the gall bladder experimentally cannot be regarded as substantiated.

There are four principal types of carcinoma of the gall bladder which may be distinguished from each other fairly readily by either gross or microscopic examination. These are (1) scirrhous carcinoma, (2) papillary carcinoma, (3) mucoid or colloid carcinoma, and (4) squamous cell carcinoma or epithelioma.

In the great majority of cases, carcinoma of the gall bladder spreads by direct invasion of the neighboring viscera and regional lymph nodes. It seldom disseminates to distant organs even in its terminal phase. Quiet early, however it invades locally and oversteps the limits of successful removal. The first organ invaded is generally the liver. Almost as frequently involved are the regional lymph nodes. In the later stage, of the disease the peritoneum is quite often invaded. In some cases the stomach, duodenum, colon and even jejunum are affected.

As carcinoma of the gall bladder is almost invariably imposed upon a former cholecystitis generally with gall stones, there is usually a history of previous biliary disease. In such cases the symptoms are of the type generally associated with chronic cholecystitis—flatulent indigestion, pain below the right costal margin, and occasional attacks of biliary colic—and one or more attacks of jaundice may have occurred.

In typical cases of carcinoma of the gall bladder the symptoms are pain associated with anorexia, nausea, vomiting, and jaundice and examination may reveal a palpable swelling under the right costal margin. In atypical cases the symptoms may be due mainly to obstruction of the common duct, obstruction of the cystic duct or secondary growths.

The difficulty of treating an established carcinoma of the gall bladder emphasizes the importance of preventing the occurrence of the condition by radical treatment of its main etiological factor, calculous cholecystitis. When it is borne in mind that malignant disease is the eventual outcome in a large proportion of cases of gall stones, it is evident that the benefits of timely operation far outweigh the risks. The observation that carcinoma may develop years after the removal of stones by cholecystostomy indicates that the operation of choice for cholelithiasis is cholecystectomy.

SAMUEL KERN, M.D.

Branch C.D. and Cross R.E. Aberrant pancreatic tissue in the Gastro Intestinal Tract. A Report of Twenty Four Cases. *Arch Surg* 1935 31: 100

The discovery of aberrant pancreatic tissue at operation or autopsy has been reported periodically since such tissue was first described by Klob in 1830. The literature to date contains records of approximately 200 cases. The authors report 24 cases in which the aberrant tissue was found in various locations in the wall of the gastro-intestinal tract.

In the majority of the cases reported previously, the aberrant tissue was in the upper portion of the

gastro-intestinal tract, and in almost 80 per cent of these it was in the wall of the stomach, duodenum or jejunum. In the majority of the remaining cases it was in the ileum appearing particularly in diverticula. In a few cases it was found in the omentum, the mesenteric fat, an umbilical fistula, the wall of the gall bladder or the splenic capsule. Thus it is seen that in most instances it occurred in a part derived from the foregut.

Various theories as to the origin of aberrant pancreatic tissue have been advanced. The authors believe that such tissue is a congenital abnormality which arises either as an anomalous Anlage or as an inclusion of primitive pancreatic tissue in a portion of the foregut or its derivatives, and does not represent a stage of normal fetal growth.

Of the authors 24 cases 12 were those of males. The age of the patients ranged from eight days to eighty two years. In 5 cases the abnormality was discovered at operation and in 19 at autopsy. In 2 cases it was located in the gastric wall. In both of these partial resection of the stomach was done under the impression that the nodular mass was carcinomatous. In 1 case the pancreatic tissue was found in the pyloric ring. In 10 cases it occurred in the duodenum, and in 1 of these it was in a duodenal diverticulum. In 4 cases it occurred in the jejunum and in 1 case in the wall of the ileum. In the remaining 6 cases it occurred in a Meckel diverticulum.

Microscopic examination showed the tissue to contain ductal and acinar elements with a structure closely resembling that of normal pancreatic tissue. In 9 specimens typical islets of Langerhans were present, but in the remaining 15 none was seen.

Aberrant pancreatic tissue may occasionally cause symptoms. In a purely mechanical manner it may produce pyloric or intestinal obstruction. Cases of intussusception in which the pancreatic tissue acted as the leading point have been reported. Some believe that certain intestinal diverticula are formed because of weakening of the musculature of the intestinal wall by the aberrant pancreatic tissue. Inflammatory reactions arising in aberrant pancreatic tissue may cause symptoms simulating those of peptic ulcer or appendicitis depending on the site of the tissue. Cases of malignant degeneration of abnormally situated pancreatic tissue have been reported.

Of the authors 24 cases 4 had important pathological significance. In 1 of the latter the nodules caused pyloric obstruction and in 3 it was the site of ulceration in the stomach or duodenum. The 21 cases are reported briefly. The article is followed by an extensive bibliography.

See also W. Tolcott M.D.

MISCELLANEOUS

Overholt R.H. and Donchess J.C. Subphrenic Abscess. *New England J Med* 1935 213: 195

In the Lape, Clinic twenty five cases of subphrenic abscess have been treated during the past

fourteen years. In the average surgical practice this lesion is not often encountered.

Subphrenic abscess results when infection already existing in the peritoneal cavity spreads into the subdiaphragmatic space. Infection in the pelvis or the right lower quadrant of the abdomen may spread upward laterally to the cecum and ascending colon. From the region of the gall bladder or pylorus infection may spread to the right subhepatic area and extend over and under the liver to the posterosuperior or anterosuperior space. The frequency of subphrenic collections on the right side (92 per cent) is much greater than that of such collections on the left side. The authors reproduce Barnard's drawings showing the pathways of spread of peritoneal infection.

The important part played by pressure changes in the upper abdomen has not been sufficiently emphasized. Overholt has shown that during quiet respiration the intraperitoneal pressure in the upper abdomen is less than the atmospheric pressure. Therefore pus that has reached the upper abdomen may be sucked up to the subphrenic space. Accordingly, in order to prevent the upward spread of infection,

it is desirable to keep the patient in a half-sitting position.

The authors state that in persons potentially subject to its occurrence, a subphrenic abscess is suggested by discomfort in the upper part of the abdomen, dyspnea, hiccup, and referred pain in the chest, shoulders, or neck. In the differential diagnosis, generalized peritonitis, liver abscess, perinephritic abscess, thoracic emphysema, postoperative massive collapse of the lungs, and unilobar atelectasis must be ruled out.

The authors describe the two-stage transpleural approach which they prefer for drainage. They state that the operation advocated by Ochsner has two distinct advantages. It is a one-stage procedure and the danger of contamination of the pleural and peritoneal cavities during the establishment of the drainage tract is less than in other methods.

In the twenty-five cases of subphrenic abscess cited there were eight deaths. The authors believe that none of the deaths was due to the subphrenic abscess *per se*, but that the presence of the abscesses contributed to the high mortality.

EARL GARSIDE, M D

GYNECOLOGY

UTERUS

Clason S. The Technique of Stereohysterography (*Ueber die stereohysterographische Technik*) *Acta obst et gynec Scand* 1935 15 11

The author describes the technique of hysterosalpingography in detail. Of the injection methods—obturative injection with iodine oil as the contrast medium and open injection with mucophiles as the contrast medium—the author unconditionally prefers the former chiefly because in addition to hysterography it allows salpingography and functional studies. Of the iodine oils he prefers lipidol.

He employs Schultze's injection equipment but has modified it so that the free point in front of the obturator olive can be made of minimum size. Certain observations have led him to the conclusion that a longer point may excite contractions of the uterine isthmus which may render the examination more difficult. Besides causing functional disturbances the use of a long point is undoubtedly associated with increased risk of oil embolism.

Clason agrees with Dooay that the injection can be better controlled by observation under the fluoroscopic screen than by pressure measurements. For physical reasons the pressure cannot be measured with any degree of precision. Therefore the author is not willing unreservedly to accept the pressure values reported by Léclerc.

In principle Clason favors the stereoscopic technique for roentgenography. No extra apparatus is required for stereoröntgenograms. A simple mnemonic rule followed by the author and the use of a fixed indicator give almost automatic protection against errors. In this connection Clason describes the simplest possible stereoscopic method: stereoscopy by hyperconvergence.

The dangers of the technique are discussed. As the examination has been made in only about fifty cases in the author's clinic and in none of these were there any complications. Clason refers to Schultze's comprehensive review of the risks of the injection.

With regard to the possibility of roentgen lesions caused by hysterography, Clason states that by dosimetric determinations made with the assistance of the physical laboratory of Radiumhemmet, Stockholm, he has been able to prove that in hysterography by the technique described the margin of safety is such that there is no danger of roentgen lesions. However with a different technique such risks are not precluded.

In discussing the therapeutic effect of hysterography in sterility, Clason calls attention to the possibility of a roentgen stimulation.

In regard to the possible risk of producing sterility he points out that if the indications recognized by

the Sabbatsberg Clinic are followed most of the patients are already sterile before the examination. In the cases of the others the danger must be to very slight in comparison with the chance of a positive gain that it can be disregarded.

The author cites a number of cases showing that in case of intra uterine changes findings nearly as exact as those made at autopsy can be obtained by hysterography.

In particular, a case of placental polypus and two cases of adenomyosis of the uterus may be mentioned. The first described from the norms set forth in the schemas of Betlere and Bakke in that there was no marked general hypotony but only a local and relative hypotony.

The two cases of adenomyosis showed a similar characteristic roentgen picture characterized by spasticity localized to a corner of the uterus which exhibited some, though inconsiderable change in other respects. Clason says that it remains to be determined whether this is to be regarded as a previously unknown pathognomonic roentgenological clinical picture and whether it has the importance in gynecological diagnosis which he is inclined to assume.

Wallbrück E. The Necessity of Removing the Adnexa with the Uterus in Operating for Large Adenoma of the Body of the Uterus (*Ueber die Notwendigkeit der Mitentfernung der Adnexe bei der Operation des Carcinoma corporis uteri*) *Zentralbl f Gynäk* 1935 p 865

Of 115 cases of cancer of the uterus reported in the literature, autopsy disclosed metastases in the ovary in 19 (16.5 per cent). Of a series of early operable cases, ovarian metastases were present in 3.5 per cent. Other reports give the incidence of involvement of the ovary at from 2 to 10 per cent.

The route of dissemination is disputed. There is the route by way of the lymph vessels and that by way of the valve-free veins. In rare instances the spread may occur along the tubes as suggested by Sampson. Of 23 metastatic ovarian cancers found up to the present time in the Charité Clinic in Berlin the site of the primary tumor was in the body of the uterus in 10. Of 90 women operated upon for corpus carcinoma, metastases were found in the ovary in 1 1/2 per cent. Histological examination demonstrated completely corresponding pictures in the carcinoma of the ovary and the carcinoma of the body of the uterus.

The author reports a case of corpus carcinoma in a woman fifty years of age in which the histological and operative findings were dissimilar. The uterus was removed vaginally with the adnexa. The adnexa were removed only because the menopause

had begun one year previously. In the right ovary was found a small focus of cancer which could not be recognized macroscopically. Therefore, as an incipient metastatic carcinoma of the ovary cannot be excluded macroscopically, with certainty, it is justifiable to recommend that when operative interference is decided upon in cases of corpus carcinoma, both the adnexa and the uterus be removed instead of only the uterus. If this is not done there is danger of subsequent cancerous involvement of the ovary from the uterus. In 2 of the author's cases in which only the cancerous uterus was removed, metastatic tumors appeared in the ovary after ten months and two and three-quarters years respectively.

The author believes that in time, comparative studies will demonstrate the advisability of the more extensive operation.

(H H SCHMID). JOHN W BRENNAN, M D

ADNEXAL AND PERIUTERINE CONDITIONS

Klaften, E : A Further Contribution to the Knowledge of Granulosa-Cell Tumors (Weitere Beitrag zur Kenntnis der Granulosazelltumoren) *Zentralbl f. Gynaek*, 1935, p 614

The author reports four cases of granulosa-cell tumor. In all, the nature of the neoplasm was proved by microscopic examination.

The first case was that of a nullipara twenty-four years old. Menstruation began at the age of sixteen years. The menstrual periods recurred at intervals of three weeks and lasted for eight days. At the time the patient consulted the author she had had amenorrhea for four months. Examination revealed a tumor on the right side extending to the umbilicus. The distribution of hair was of the male type. Menstruation began again nine days after removal of the tumor and thereafter recurred regularly. The patient was treated with ergostabil. Two years after the operation menstruation was still normal.

The second case was that of a woman forty-nine years old who had never been pregnant. Menstruation began at the fourteenth year of age and had been regular until nine years before the patient consulted the author, since when she had had amenorrhea. For the last fourteen days bleeding had occurred from the vagina and there had been pain behind the sternum. At laparotomy for a tumor situated behind the uterus, a hard tumor of the right ovary about the size of a goose egg was removed. After the operation there was no further bleeding. The neoplasm consisted of a fibroma and a granulosa-cell tumor.

The third case was that of a nullipara twenty years of age. Menstruation began at the age of fourteen years and had always been regular up to four months before the patient consulted Klaften, when amenorrhea began. A tumor of the right ovary the size of a mandarin orange was removed. After the operation menstruation again occurred normally.

The fourth case was that of a woman fifty-nine years old who had borne three children. The menopause occurred when the patient was fifty-three years old. For the last fourteen days there had been irregular vaginal bleeding. Operation disclosed a tumor of the right ovary about the size of a fist and ascites. Following removal of the tumor the vaginal bleeding ceased.

After reporting these cases the author discusses the symptoms, especially the amenorrhea which cannot be entirely explained. He states that granulosa-cell tumors cause early sexual maturity, but not the acquirement of male characteristics. He cites a case reported by Bland and Goldstein in which early sexual maturity produced by a granulosa-cell tumor in a child seven years old was not affected by removal of the tumor.

(HANS O NEUMANN) HARRY A SALZMANN, M D

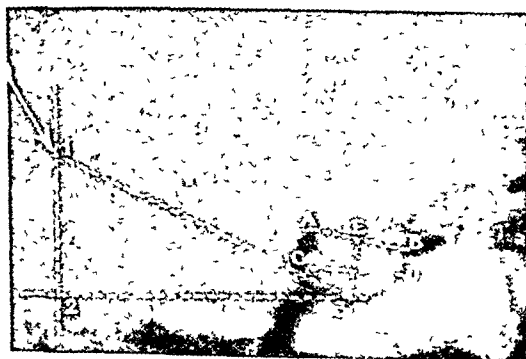
MISCELLANEOUS

Fagioli, M.: Roentgenographic Studies of the Cranium of Women with Dysfunction of the Genital Organs (Di alcune indagini radiografiche sul cranio di donne con disfunzione dell'apparato genitale) *Ginecologia*, 1935, 1 625

The author reports the findings of roentgenographic studies of the sella turcica and cranium of twelve women with normal genital function and twelve women with secondary ovarian dysfunction. The technique used was that of Balli and Busi. The roentgenograms were taken with the Potter-Bucky diaphragm at a focal distance of 75 cm.

In the twelve women with secondary ovarian dysfunction the length of the sella turcica was found to be 12 mm, its height, 10 mm, and its entrance diameter (ingresso solare) 12.6 mm. The fronto-occipital diameter of the cranium was 205.6 mm, and the mathematical relation of the anteroposterior diameter of the sella turcica to that of the cranium 12 205.6 or 16.6.

In the twelve women with normal ovarian function the length of the sella turcica was 10.4 mm, its



A-B, entrance diameter (ingresso sellare) C-D, length E-F, height.

height 8.9 mm, and its entrance diameter (ingresso solare) 10.9 mm. The fronto occipital diameter of the cranium was 196.7 mm, and the relation of the anteroposterior diameter of the sella turcica to that of the cranium 10.4 : 196.2 or 18.6.

Fagnoli draws the following conclusions:

1. According to the findings in this limited number of cases, the measurements of the sella turcica are larger in women with secondary ovarian dysfunction than in women with normal ovarian function.

2. Although a large sella turcica does not necessarily mean a large hypophysis and a large hypophysis does not necessarily mean a correspondingly greater excretory function, this finding suggests a possible relationship between the size of the gland and genital dysfunction. **GEOFFREY C. FRYDA, M.D.**

Courtiades II. The Physiotherapy of Genital Hemorrhages in Women from Causes Other than Pregnancy and Tumors (Physiothérapie des hémorragies génitales chez la femme en dehors de la grossesse et des tumeurs). *Rev. fran. de gynéc. et d'obst.* 1935, 30, 5-9.

In recent years the developments in endocrinology have completely changed our conceptions of the pathogenesis of uterine hemorrhage. The old idea of hemorrhagic forms of metritis must be abandoned and treatment re-oriented on a new basis.

Radium was first employed for the treatment of uterine bleeding in 1895 by Abbe of New York. In 1906 Oudin and Verchère made an extensive study of its use in the treatment of fibromyomas. In France the radium treatment of functional metrorrhagias has received little attention in recent years but in Germany, the United States and England numerous reports of its use have been published.

Two views are current regarding the mechanism by which radium exerts a hemostatic effect on the uterus. According to the theory most widely accepted it acts indirectly through the ovary. However there is experimental evidence indicating that ordinary irradiation does not reach the ovary but causes vascular changes in the uterus (Maury Schmitz, Nogier, Bédère, Degrais, Kelly). Domencia believes that the changes in the blood are of importance.

The indications for radium therapy vary with the age of the patient. Because of the possibility of causing a definite amenorrhea, radium is little used in England and France for metrorrhagia and menorrhagia in virgins. In the United States it is widely employed. In the cases of adult women the French practice is to employ radium only after other methods have failed although its results are generally excellent and permanent amenorrhea rarely occurs. In the cases of women close to the menopause radium is most clearly indicated.

It is generally believed that irradiation is contra-indicated by acute and chronic inflammatory disease of the adnexa but Foveau de Courmelles, Gauss, and Chéron recommend its use in chronic inflammatory

lesions of the adnexa including tuberculosis. Of 171 cases of this kind pregnancy occurred in 22.

The usual technique consists in introducing the salts of radium or the emanations into the uterine cavity or, if adnexal infection exists, simply applying them to the vaginal vault (Laborde). The techniques used in the treatment of different conditions are described in detail.

According to the statistics of various gynecologists the results of radium therapy are quite variable. However in nearly all of 31 cases of metrorrhagia in women below the age of twenty-five years which were treated by the author the bleeding was controlled and normal menstruation was re-established. In 3 cases permanent amenorrhea resulted.

Of the cases of women near the menopause the results (with definitive amenorrhea) were satisfactory in 90 per cent.

In the second part of the article roentgen therapy is discussed. This method of treatment was developed between 1902 and 1910. Bordier and Bédère employed it for fibroids. It was soon tried in essential metrorrhagias. The effects of the X-rays on the uterus are the same as the effects of radium but in the ovaries the changes are more extensive, resulting in the disappearance of all elements having to do with internal secretion. However, primordial follicles may persist, permitting the resumption of menstruation provided a correct dosage has been employed. Therefore roentgen therapy is of some use in the cases of young women although as a rule radium is to be preferred. In the cases of women near the menopause in which arrest of menstruation is desired roentgen therapy has the disadvantage of acting on the bladder and the intestines. Therefore radium is to be preferred also in these cases.

Metrorrhagias due to chronic adnexal inflammation of a tuberculous or other nature may be benefited by X-ray therapy in a large percentage of cases. The irradiation acts on the inflammation rather than on the uterus (Mathéy, Cornat, 1933).

Attempts have been made to influence metrorrhagia indirectly. Hornung von Mikulicz, Radecki, and Solomon have found irradiation of the spleen to be of value. Too recent to be evaluated is irradiation of the hypophysis (Drips and Ford and Huet). However a high incidence of excellent results even after failure of other methods has been reported. This line of treatment seems theoretically sound.

The article is followed by a bibliography of fifty-seven references. **ALBERT F. DEGRADT, M.D.**

Jayle F. The Surgical Treatment of Genital Hemorrhages Due to Causes Other Than Pregnancy and Tumors (Traitement chirurgical des hémorragies génitales en dehors de la grossesse et des tumeurs). *Rev. fran. de gynéc. et d'obst.* 1935, 30, 598.

In the treatment of genital hemorrhages of the functional type surgery has only limited indications but nevertheless occupies a definite place. The author reports illustrative cases which were treated

surgically. The histories are remarkable in that they cover long periods in the lives of the patients.

Occasionally ovarian grafts may give good results although their life is short. The temporary functioning of the graft may be sufficient to re-establish the normal rhythm of the endocrine glands.

The author expresses some rather original views on the development of the vascular system in the genesis of uterine bleeding. His indication for operation is varices of the blood ligament.

Chronic hyperplasia, which is a frequent cause of menorrhagia in young women, can usually be cured by curettage. However, there are exceptions. The author cites a case of hyperplasia persisting for sixteen years.

Occasionally the hemorrhage may be so severe that hysterectomy must be performed as an emergency measure.

For the large soft uteri of older women the author prefers abdominal hysterectomy to irradiation.

In the cases of women near the menopause who bleed because of prolapse, surgery remains the only resource.

ALBERT F. DEGPOT, M.D.

Vurchio, G.: The Thermic Effect of the Short Wave and of Diathermy in the Field of Gynecology (Effetto termico delle onde corte e della diatermia nel campo ginecologica) *Ginecologia*, 1935, 1: 553.

The author reports his observations on the thermic response in the uterus, vagina, and rectum to diathermy and short-wave currents applied to the abdomen at from $1\frac{1}{2}$ to 2 amperes in the cases

of twenty ambulatory women suffering from adnexal inflammatory disease. For the determination of this response he constructed a sensitive thermo-electrical apparatus similar to that of Becquerel and Brechetfin which can be introduced into the various hollow organs of the body and records temperature variations as low as 0.01 degree. The findings of his study were as follows:

Diathermy. Ten minutes after the treatment was started there was a slight elevation of the temperature in the uterus, vagina, and rectum which reached its maximum at the end of twenty minutes. Half an hour after termination of the treatment the temperature decreased, and by the end of another half hour it had returned to normal. In the uterus and rectum the highest temperature rise recorded was 0.6 degree and the average rise was 0.4 degree. In the vagina the highest rise recorded was 0.4 degree and the average rise was 0.3 degree. No appreciable difference was noted with higher amperage in the applications.

Short wave therapy. The temperature response in the uterus, vagina, and rectum was identical with the response to diathermy except that the highest rise recorded was 0.7 degree. Higher amperage failed to increase the temperature in any of the organs. In none of the cases was the temperature found to decrease below the normal.

The author concludes from these studies that the temperature in the uterus, rectum, and vagina is definitely influenced by diathermy and short-wave currents.

GEORGE C. FINOLA, M.D.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Morra G. Variations of the Total Blood Phosphorus in the Physiological Puerperal State (*Sulle variazioni del fosforo sanguigno nello stato puerperale fisiologico*) *Ginecologia* 1935 1: 650

Using the volumetric method of Macheboeuf the author determined the total blood phosphorus and the phosphorus content of the erythrocytes and blood serum of eleven non pregnant women in the intermenstrual period ten women in the first six months of pregnancy five women in the eighth or ninth month of pregnancy ten women at term and fifteen women in the first week of the puerperium.

The average amounts expressed in milligrams per 1000 c. cm. were as follows:

	Total phosphorus	Erythrocyte phosphorus	Serum phosphorus
Non pregnant women	345	751	133
Women in first six months of pregnancy	314	801.8	156.6
Women in last three months of pregnancy	377	803	151.6
Women at term	379.4	805	156.9
Women in first week of puerperium	377.7	804	156.1

These figures compare favorably with those reported by Momigliano although they are somewhat higher.

The author concludes that there is an appreciable elevation of the phosphorus in the blood during pregnancy which begins in the early months and continues into the first week of the puerperium. As the administration of extracts of the posterior lobe of the pituitary gland the thyroid and the ovaries has been shown to increase the phosphorus content of the blood in the absence of pregnancy he believes that the increase has a definite relationship to the glands of internal secretion. He is of the opinion also that it is related to the buffer reaction during pregnancy. (PUBL. C. FINOLA M.D.)

Wodon J. L. The Experimental Production and the Pathogenesis of Eclampsia: Reproduction expérimentale et pathogénie de l'éclampsie. *Braz. Med. J.* 1935 15: 1033

In many investigations made in cases of eclampsia in the past few years the most constant finding was a disturbance of the acid base equilibrium of the blood. In his approach to the study of the condition Wodon examined the blood of both pregnant and non pregnant women. He found that the alkali reserve of the blood gradually fell as pregnancy progressed reaching its lowest point just after delivery.

In spite of the alkali deficit the hydrogen ion concentration of the blood remained constant. The alkali reserve returned to a normal level of 50 volumes per cent about the tenth day after delivery.

When eclamptic convulsions are threatening and during their occurrence the drop in the alkali reserve is uncompensated the hydrogen ion values therefore changing markedly toward the acid side.

The three most widely accepted theories attribute eclampsia respectively to (1) water intoxication (2) intoxication induced by a secretion from the posterior lobe of the pituitary gland which exerts an anti diuretic effect and (3) intoxication from guanidine.

In his studies the author carried out three groups of experiments on dogs. In the first group convulsions were produced by giving large amounts of water through a gavage tube. In the second group water was given in the same way and substance of the posterior lobe of the pituitary gland was injected intramuscularly. In the third group guanidine was given intravenously. Determinations were then made of the hydrogen ion concentration and alkali reserve of the blood.

It was found that the intoxication produced by guanidine was accompanied by the same changes in the acid base equilibrium as those occurring in eclamptic toxemia. This was interpreted to favor the hypothesis that changes in the metabolism of guanidine play an important rôle in the causation of eclampsia. Water intoxication and intoxication due to substance from the posterior lobe of the pituitary gland do not produce the changes found in the eclamptic state. (MARCH W. POOLY M.D.)

LABOR AND ITS COMPLICATIONS

Nathanson J. N. A Parallel Study of Labor in Young and Old Primiparas. *Am. J. Obst. & Gynec.* 1935 40: 353

It is suggested that for the sake of uniformity in future studies, thirty five years be chosen as the lower age limit for elderly primiparas.

In the study made by the author the funnel pelvis was more frequently found in elderly primiparas and the justomnius pelvis in young primiparas. Dystocia of bony origin is therefore more frequent at the inlet in the young primipara and at the outlet in the old primipara.

Persistent occiput posterior positions and breech presentation occurred respectively in 21.94 and 6.00 per cent of the cases of old primiparas. This was twice their incidence in young primiparas.

In the incidence of premature rupture of the membranes there was a difference of only 2.1 per cent between the elderly and young primiparas.

Labor was of definitely longer duration in the old primiparas. The greatest difference occurred in the first stage. This is undoubtedly accounted for by the greater incidence of abnormal presentations and uterine inertia in old primiparas and the greater elasticity of the soft tissues in young primiparas.

Cesarean section was performed on 10.75 per cent of the older primiparas and not at all on the young primiparas. The author emphasizes, however, that the major indication for the operation was usually not the age of the patient but a condition such as pelvic deformity, a non-yielding cervix, or progressive toxemia.

Uterine inertia, both primary and secondary, was five times more frequent in the older women than in the younger women.

The incidence of stillbirth was three times as high in the cases of the older women than in those of the younger women.

The mortality of the older primiparas was 1.61 per cent. None of the young primiparas died as a result of pregnancy or labor.

The age of the primipara has little or no influence upon the sex, weight, or length of her children.

Toxemia was one and one half times as frequent and complications of the third stage of labor twice as frequent, in the older than in the younger primiparas.

Irregularities in menstruation, and particularly late establishment of the function, seemed to influence the type and duration of the labor.

According to the findings in these cases, the time of marriage does not appear to influence the duration of labor.

The author concludes from this study that no definite rule can be laid down for the routine conduct of the labor of elderly primiparas. The procedure followed should be that which best meets the requirements in the individual case.

EDWARD LAYMAN CORNFELL, M.D.

Le Lorier, V.: A Discussion of the Treatment of Retroplacental Hemorrhage with Uterine Apoplexy. Statistics on Retroplacental Hematomas Observed in the Period from 1924 to 1935 (Discussion sur le traitement des hémorragies rétroplacentaires avec apoplexie utérine. Statistiques des hématomes rétroplacentaires observés de 1924 à 1935) *Bull. Soc. d'obst. et de gynec. de Par.*, 1935, 24, 378.

Of 20,423 deliveries occurring at the Boucicaut Hospital in the period from 1924 to 1931 and at the Port Royal Hospital in the period from October, 1931, to January, 1935, a retroplacental hematoma was formed in 64 (0.31 per cent). The maternal mortality in the latter was 6.2 per cent (4 deaths), and the infant mortality, 55 per cent (36 deaths).

The 64 cases of retroplacental hematoma may be divided into the following 3 groups:

Group 1. Forty-nine cases of uncomplicated retroplacental hematoma. In this group there were no maternal deaths but 26 infant deaths. Sixteen of the infants dying weighed more than 1,500 gm.

Group 2. Six cases with associated uteroplacental apoplexy. All of these were treated by hysterectomy or a Porro operation. Two of the mothers and all of the infants died. Four of the infants weighed more than 1,500 gm.

Group 3. Nine cases with associated eclampsia. In this group there were 2 maternal deaths and 4 infant deaths. Two of the infants dying weighed more than 1,500 gm.

In the treatment, 22 obstetrical operations and 7 surgical operations were carried out. The former included 8 forceps applications, 7 artificial deliveries, 3 uterine versions, and 4 intra-uterine tamponades. The latter were 1 vaginal cesarean section and 6 hysterectomies. Two of the hysterectomies were Porro operations.

Practically all of the patients had hypertension with or without albuminuria. In general it appeared to the author that the cases of hypertension without albuminuria were more serious than those with albuminuria. MAX M. ZINNINGER, M.D.

Stein, I. F., and Leventhal, M. L.: An Analysis of 381 Cesarean Section Cases in a Ten-Year Period at Michael Reese Hospital, Chicago. *Am. J. Obst. & Gynec.*, 1935, 30, 102.

At Michael Reese Hospital, Chicago, cesarean section has been assuming an increasingly important place among obstetrical operative procedures. Chiefly responsible for the extension of its indications and the greater frequency of its performance was the adoption of the low cervical technique.

In the ten-year period reviewed, the maternal mortality of the operation was 2.10 per cent and the fetal mortality 2.33 per cent.

Analysis of the postoperative complications yields valuable information regarding the morbidity, but is of little aid in determining the choice between vaginal and abdominal delivery.

The morbidity demonstrates that local anesthesia is preferable to anesthesia of other types. Of the cases reviewed, it was highest in those in which the operation was performed under spinal anesthesia.

The comparative and combined maternal and fetal mortalities indicate that, as performed by the authors, cesarean section is safer than version and high forceps. However, the authors do not recommend the replacement of version by cesarean section in cases presenting valid indications and the proper conditions for version and extraction.

EDWARD LAYMAN CORNFELL, M.D.

GENITO URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Caldor, R M and Porro F W. Adenoma of Adrenal Cortex Simulating Pituitary Basophilism (Cushing's Syndrome) *Bull Johns Hopkins Hosp*, Balt 1935 57 9

An unusual case of adenoma of the adrenal cortex is presented. The symptoms were similar to those of pituitary basophilism (Cushing's syndrome) but there was hypertrophy of the clitoris which is not usually present in pituitary basophilism.

By some, surgical exploration of the adrenals has been advised when a definite clinical diagnosis is impossible. The authors advise trying deep X-ray therapy of the pituitary gland first. They state that if this is not effective diagnostic pycnography is justified and surgical exploration of the adrenals may be done as a last resort.

THEOPHIL I. GRAUER M.D.

Albright F and Bloomberg F. Hyperparathyroidism and Renal Disease. With a Note as to the Formation of Calcium Casts in This Disease. *J Urol* 1935 34 1

The authors state that hyperparathyroidism is a sufficiently frequent cause of renal stone to warrant its consideration in every case of renal lithiasis.

In a series of twenty three proved cases of hyperparathyroidism admitted to the Massachusetts General hospital there were eleven in which the presence of a renal stone was the only clue leading to the diagnosis of the condition.

A frequent finding in hyperparathyroidism is the presence of many finely granular casts in the urinary sediment. The granules have been shown to contain calcium probably calcium phosphate. The casts can be changed into hyaline casts by making the urine more acid by the oral administration of ammonium chloride. Their continued presence in large numbers is an indication of renal damage.

It is probable that the factors governing the formation of these casts which in a way are microscopic calculi in the renal tubules are those governing stone formation in hyperparathyroidism viz the concentrations of calcium phosphate and hydrogen ions in the urine.

Stone formation in hyperparathyroidism is apparently due to an excess of crystalloids in the urine. J SIDNEY RITTER M.D.

BLADDER, URETHRA AND PENIS

Loughnane F McG. Retention of Urine. *Brit M J* 1935 1 115

Retention of urine may be merely a sign of some graver condition or an active agent responsible for a

more serious disturbance. It is rare in women and children except in the presence of neurological lesions but is very common in elderly men. It may exist for years without being diagnosed the patient failing to report it. It is often the indirect cause of the death of elderly men. The inability to empty the bladder completely may be acute or chronic. The condition must be differentiated from uremia. Its diagnosis may sometimes require catheterization but as a rule can be made on the basis of the clinical symptoms and examination. In chronic cases the amount of residual urine is important. This may be fallacious unless precautions are taken as in the cases of nervous patients.

The causes of acute retention are stricture enlargement of the prostate due to an adenoma, cancer or infection, an impacted urethral calculus, ligation of the penis, nerve lesions, urethritis, and operation.

Primary acute retention is not secondary to the chronic condition. To prevent infection of the bladder and urethra non-operative measures such as free purgation, the introduction of a morphine rectal suppository, and a hot bath should be employed first. Catheterization should be done under local anesthesia and preceded by the administration of adrenalin. Silver catheters are best. One ounce of a 1 per cent silver nitrate solution should be injected into the empty bladder and left there. If catheterization fails, suprapubic puncture with a long exploring needle is indicated. If the bladder fills up again puncture with a curved trocar is necessary.

If acute retention is superimposed upon chronic retention the prognosis is less favorable. The content of cholesterol in the blood plasma is often low but this is not so serious as in chronic retention. It is associated with diminished resistance to sepsis. A high blood urea does not necessarily indicate impending uremia and is not an accurate indicator of renal efficiency. If the blood urea is about 10 mgm per 100 c cm the risks of surgery are justified. Immediate and complete emptying of the bladder is contra-indicated. The bladder must be decompressed slowly. An intravenous injection of 20 per cent glucose may be required to ward off uræmia. If the medical measures are unsuccessful the urine should be drained from the bladder by means of an indwelling catheter drop by drop or at the rate of 1 or 2 oz every hour. If catheterization is impossible a small trocar and cannula should be inserted suprapublically. The administration of urinary antiseptics by mouth is beneficial. The fluid intake should be increased. Neither cystoscopy nor endoscopy should be attempted until the acute attack is over.

Of the numerous tests for renal efficiency the author considers only four. In general practice the

fluid intake and output test is easiest. If the intake and output of fluid are about the same, the kidney is fairly efficient. However, this determination is not entirely reliable. The blood-urea test is of value only in gross lesions of the kidney. Most important is the urea-concentration test of McLean. The urea-clearance test of Van Slyke is no more reliable than the McLean test.

The septic complications of urine retention are inflammation of the kidneys and bladder and perineal abscess. Perineal abscess always occurs proximal to a stricture and is generally associated with urinary extravasation. The treatment includes incision of the abscess, retrograde catheterization, the use of an indwelling catheter, and drainage. In pyelonephritis, antiseptic medication and forced diuresis, possibly combined with catheter or suprapubic drainage, render surgery safe. Cystitis of obstructive origin is remedied by lavage and drainage. Diabetics must be given insulin.

In elderly men suffering from chronic retention the condition of the cardiovascular system is of chief importance. Low blood pressure is more serious than high blood pressure. In the presence of a low blood pressure there is a greater tendency toward cerebral thrombosis and pulmonary embolism. Both of the latter may occur if the bladder is septic. To prevent venous congestion, gentle massage and movements by the patient in bed are indicated. Deep breathing is also beneficial, and stimulants should be given.

The chief symptoms of chronic retention are frequency, a poor urinary stream lacking force, and dribbling. Pain is seldom a feature in adults unless cystitis or urethritis is present. Elderly men have symptoms of chronic uremia (headaches, thirst, and frequency, especially nocturnal frequency). The frequency often consists of incontinence with overflow and distention of the bladder up to the umbilicus. Although this is a common feature in nervous lesions, it may accompany chronic enlargement of the prostate or chronic stricture. The symptoms are of little aid in the diagnosis. In all cases, cystoscopy and urethroscopy are essential before mechanical causes can be eliminated. The spinal anesthetic test combined with roentgenography is not so informative in vesical derangement as in bowel lesions. A neuromuscular dysfunction can be assumed only in the absence of a demonstrable mechanical obstruction and when no definite nervous lesion can be demonstrated. If an organic lesion of the nervous system is the cause, repeated catheterization or suprapubic drainage is indicated. In neuromuscular dysfunction, sympathectomy gives relief.

The treatment indicated for chronic retention secondary to urethral stricture is gradual decompression of the bladder followed by dilatation of the stricture. In cases of chronic retention due to an enlarged prostate the treatment should include gradual decompression of the bladder, improvement of renal function by drainage, the amelioration of sepsis, and removal of the cause. The operation of

choice is endoscopic resection by the McCarthy method. This is preferable to any type of prostatectomy.
LOUIS NEUWELT, M D

Friedrich, H : Sphincter Sclerosis in the Female
(Sphincter-Sklerose bei der Frau) 59 Tag d
deutsch Ges f Chir, Berlin, 1935

The author first presents a brief discussion of sphincter sclerosis in the male and warns regarding the frequency of erroneous diagnoses. He states that in the presence of suggestive symptoms sphincter sclerosis may be assumed only when disease of the prostate has been ruled out.

That sphincter sclerosis may occur also in the female is evidenced by the following case.

A middle-aged woman had had symptoms of cystitis for a number of years. Gradually urination became more difficult until finally spontaneous urination was no longer possible. The patient was catheterized for more than a year, but finally learned to empty the bladder partially by introducing a finger into the vagina and pushing its upper wall backward. Gynecological and neurological examination disclosed nothing unusual and the general condition was normal. Cystoscopic examination disclosed a very marked trabeculation and a barrier formation. The capacity of the bladder was 900 c cm. Even when the bladder had been partially emptied by the procedure described there was still a residue of urine of from 300 to 400 c cm. At first the cause of the condition was totally obscure, but the barrier formation demonstrated on cystoscopic examination suggested that it was something like the sphincter sclerosis of the male. At operation, a sclerotic ring was found at the orifice of the urethra. Only after this ring was broken by the excision of a wedge-shaped section could the finger be introduced into the urethra. The histological diagnosis made by Erlangen was sphincter sclerosis. The patient became able to evacuate the bladder normally.

In the author's opinion it was proved in this case not only clinically but also by the response to treatment and the histological findings that sphincter sclerosis is possible in the female.

As in the female the vicinity of the sphincter contains no organ especially disposed to inflammations such as the prostate, the occurrence of sphincter sclerosis in the female is significant with regard to the etiology of the condition.

The treatment indicated is electrocoagulation or wedge-shaped resection. In the female, the anterior, not the posterior, lip of the sphincter must be removed as the deep cutting necessary for removal of the posterior lip would be associated with the danger of the formation of a bladder fistula.

(H. FRIEDRICH) JOHN W. BRENNAN, M D

Pérard, J., and Elbim, A.: Endometriomas of the Bladder (Endometriomes vésicaux) *J d'urologie et chir*, 1935, 39, 497

The authors attribute the apparent infrequency of endometrial tumors in the bladder as compared with

other organs to failure of urologists to bear the possibility of such tumors in mind in examining the bladder. The clinical picture of endometrioma of the bladder is unique but variable. The symptoms consist chiefly of urinary frequency and pain during menstrual periods. Hematuria is rare. The tumor can occasionally be palpated in the bladder wall and exhibits a cyclic variation in its size and tenderness depending upon the menstrual phase. At cystoscopy a lesion so characteristic has been found that in some cases the diagnosis has been made by this examination alone. The tumor varies from the size of a pea to that of a small prune and may be situated at the trigone or the ureteral orifice or in the base or dome of the bladder. It is never in the anterior wall. The fact that it is beneath the mucous membrane explains the infrequency of hematuria. It is often poorly defined, presenting as a bluish discoloration or as a conglomeration of small cystic cavities. The bladder may be extremely vascular and frequently is edematous. Sometimes the tumor is hidden by a bullous edema. During menstruation it becomes more clearly defined. The edema increases and the tumor becomes engorged with blood, taking on the appearance of red cysts. This appearance and the clinical history may lead to the diagnosis if the possibility of an endometrioma is borne in mind. Malignant degeneration with the formation of metastases has not been recorded.

Treatment may be directed to the tumor or to the ovaries. If operative treatment of the tumor is undertaken it should not be attempted endoscopically but should consist of partial cystectomy. As the evolution of the lesion depends upon ovarian function, surgical or radiological castration is to be preferred. As a rule the clinical symptoms soon disappear although cystoscopic evidence of the tumor in an inactive phase may persist for some time.

The pathological picture is that of localized uterine endometrium growing diffusely through muscle fibers of the bladder wall and forming small tubes and cysts. The condition has been attributed to embryonic rests, a sero-epithelial transformation and grafts of uterine mucosa. Whether or not there is an ovarian intermediate stage in the formation of the tumors, the subsequent evolution of the neoplasms certainly depends on ovarian function. The authors discuss the theories of pathogenesis in considerable detail.

NATHAN A. WOMACK MD

Harris S H. Posterior Segmental Block Excision of the Bladder Neck with Primary Closure.
Brit J Surg 1935 23 45

Harris describes a new operation for the relief of certain obstructive conditions of the bladder neck in which there is no gross enlargement of the prostate and no adenomatous tissue in the prostatic rim which can be removed by digital enucleation. These conditions include the various types of median bar formation or disease of the posterior commissure and general prostatic fibrosis. The operation consists in removing a block shaped piece from the posterior

lip instead of the usual V shaped piece covering all raw surfaces by suture drawing the middle interurethral ligament down to the prostatic urethra and closing the bladder tightly as is done after prostatectomy.

The author has performed it thirty three times with no mortality. He states that it eliminates the liability to recurrence which characterizes cystitis form resection and should insure results at least comparable with those of complete extirpation of the bladder neck, a more extensive and less safe procedure. In comparing it with perurethral methods of resection, he concludes that it is associated with no more risk and will give more permanent results.

THEOPHIL P. CRAUTER MD

Lazarus J A and Rosenthal A A. Ruptured Pyo Urachus Complicated by Urethral Stricture.
Ann Surg 1935 101 49

Lazarus and Rosenthal report a case of pyo-urachus rupturing into the groin and state that they have been unable to find the report of any similar case in the literature. Their patient had a fibrous stricture of the urethra. In most of the cases previously reported there was a vesical or infravesical obstructive lesion such as a neoplasm, calculus, urethral stricture or prostatic hypertrophy.

Pyo-urachus is five times as frequent in the male as in the female. In the authors' case the infected urachus ruptured in its lower portion and extended downward toward the space of Retzius and outward beneath the right rectus muscle toward the right groin. The treatment was removal of the urachus and drainage of the infected tract.

FRANK M COHEN MD

Thompson, A R. Stricture of the External Urinary Meatus.
Lancet 1935 225 1375

Acquired strictures of the external urinary meatus are not rare. In old men they are relatively frequent and may be associated with a progressive phimosis due to the diminution in the size of the penis, uncleanness and the collection of smegma. In younger men chronic meatitis may occur with or without phimosis and lead to rather obstinate strictures. Occasionally gonorrhea produces meatal stricture. Chancres may result in a very painful form of stricture. Retention seems to be more common with chancres than with any of the other causes of meatal stricture mentioned. Stricture of the external urinary meatus occurs rarely after circumcision.

The treatment indicated is instrumentation and the use of suitable drugs. In some cases the stricture responds well to treatment, an apparent cure being obtained. In others it persists for a long time although it may be greatly relieved. Persisting stricture at the external urinary meatus may produce results exactly like those of gonorrheal or traumatic stricture occurring elsewhere in the urinary tract. Among such sequelae are local perineal abscesses, cystitis, stone in the bladder, ascending lymphatic

infection leading to perinephritis, and septic nephritis

An examination for the presence of a stricture of the external urinary meatus should be made in all cases of urinary obstruction. Such a stricture may be additional to the common causes of obstruction such as enlargement of the prostate and urethral stricture.

The strictured area of the meatus may be very painful and tender. Therefore the greatest care should be used when even a very small instrument is employed. It should always be borne in mind that the meatal region is the sense organ of the bladder and the site where the desire to micturate is felt.

As old men develop meatal stricture so often the author suggests that they roll back the prepuce once a week and wash the glans and corona with warm water and soap. He states that some force is necessary to remove the smegma from the glans and away from the folds of the rolled back prepuce. After the washing the prepuce should always be replaced in position.

C TRAVERS STEPITA, M D

Rotenberg, M. I : The Rôle of the Viscosity of the Blood in the Pathogenesis of Priapism (Du rôle de la viscosité du sang dans la pathogénie du priapisme) *J d'urolog méd et chir*, 1935, 39 508

Rotenberg says that the number of reported cases of priapism is relatively small and the pathogenesis of the phenomenon still obscure. He differentiates priapism from modifications of normal erections caused by certain local pathological states or by lesions of the spinal cord. With regard to the pathogenesis of priapism he considers in great detail the three current theories which attribute the condition respectively to neurogenic causes, thrombosis, and the formation of hematomas. These theories do not explain the picture presented in the case he reports nor in some of the cases reported by others. In Rotenberg's case operation disclosed no hematoma or thrombus but a thick, viscid blood which did not tend to coagulate. Rotenberg therefore believes that an increase in the viscosity of the blood may be a causative factor.

The viscosity of the blood depends upon the number and size of the cellular elements, the quantity of hemoglobin, the content of salts and albuminous substances, and the amount of gas, principally carbon dioxide. In 1906, Determann demonstrated that venous stasis, which increases the carbon dioxide of the blood, causes a corresponding increase in the viscosity. This fact explains the increased viscosity in decompensated cardiac conditions and the terminal stages of tuberculosis. The increased viscosity in diabetes, gout, and alcoholism is evidently caused by physicochemical changes occurring in the blood. The chief blood diseases accompanied by an increase in viscosity are polycythemia and myeloid leukemia.

The author discusses the relationship of these local and general causes of hyperviscosity to the occurrence of priapism. He believes that his theory ex-

plains a number of phenomena seen in normal and pathological erections that are not explained by the other theories and suggests a different therapeutic approach such as the administration of potassium iodide, diathermy per rectum, roentgen irradiation, and removal of the viscid blood from the corpora cavernosa by puncture followed by the introduction of physiological salt solution.

NATHAN A WOMACE, M D

Uhle, C. A. W., and Archer, G. F : Primary Carcinoma of Cowper's Gland. Report of a Case, with a Review of the Literature. *J. Urol*, 1935, 34 128

The authors report a case of proved carcinoma of Cowper's gland. In a review of the literature they were able to find only four authentic cases. In their own case the treatment consisted of as complete removal as possible of all carcinomatous tissue followed later by radium and deep X-ray therapy. Microscopic examination of the tissue showed the tumor to be an adenocarcinoma arising from Cowper's gland. The patient was free from symptoms three months after the operation.

ANDREW McNALLY, M D

GENITAL ORGANS

Marion, G. Atony of the Prostate (De l'atonie prostatique) *J d'urolog méd et chir*, 1935, 39 401.

The syndrome of prostatic atony occurs in relatively young males who are suffering from nervous exhaustion. As a rule it is associated with other neurasthenic phenomena.

The symptoms consist of pains or uncomfortable sensations in the region of the perineum and anus, the escape of prostatic fluid during defecation, disturbances of urination (feeble stream), and usually some degree of impotence.

Examination reveals a smooth, regular enlargement of the prostate involving the lateral lobes. The expressed secretions are normal, and the findings of urethroscopy and urethrogram negative.

The prognosis is essentially favorable. Unfortunately many patients are subjected to prolonged treatment for supposed prostatitis which aggravates the neurasthenia.

In the management of these cases it is important to re-assure the patient and avoid all treatment that attracts his attention to the prostate. The distress may be relieved by any of the common sedatives given by mouth, and the general physical condition improved by rest and the administration of tonics.

ALBERT F DEGROAT, M D

Oberndorfer. The Specific Malignant Testicular Tumor, Seminoma (Die spezifische maligne Hodengeschwulst Seminom) *Schweiz. med. Wchschr*, 1935, 1 204

Seminomas of the testicles occur in the period of active sexual function. Since in childhood, the most common neoplasms of the testicle are embryoid

tumors and in old age testicular tumors are very rare the author believes it justifiable to conclude that seminomas are related to the spermatogenetic apparatus. He states that the undescended testicle seems to be the site of a seminoma less frequently than the normally descended testicle.

Trauma is not an important factor in the development of the tumor. Of the author's twenty-five cases there was a history of injury in only three.

Irradiation gives good results and should be used also after operation.

The alveoli in which the cell masses occur are often dilated seminal tubules and even the arrangement of the tumor cells in these tubules reproduces the arrangement of the testicular epithelium. The author therefore believes that the tumors develop from the spermatogonia or Sertoli cells in the seminal tubules and possess totipotent differentiating power such that teratoid newgrowths may develop from them. As seminomas show cartilaginous or chorionepitheliomatous proliferations, the author regards them as the least differentiated of the teratoids. Myomas, fibromas, myxomas and chondromas may also develop from these cells. All such tumors must develop from the simple spermatogenic cells. Recently the reaction of the anterior lobe of the hypophysis has been demonstrated repeatedly in such neoplasms and also in medullary carcinoma of the testicle. As the prolan can have its origin only in the tumor cell, the latter are true spermatogenic cells. (R. MEYER) LEO A. JENCKE M.D.

Wilhelm S. F. Vaso Orchidostomy with Interposed Spermatocoele. A Procedure for the Treatment of Sterility. *Arch Surg* 1935 30 967

It is agreed that in the operative treatment of sterility in the male the likelihood of success is increased if a spermatocoele is present or can be formed artificially.

In the operation described by the author the entire spermatogenic tissue is used. Care is taken to prevent injury to the testicle and the site of the anastomosis is completely epithelial in order that the scar tissue formed will be minimal. A funnel shaped sac lined with epithelium analogous to a spermatocoele is formed to unite the tubules of the epididymis or rete testis to the smaller divided end of the vas deferens.

The operation is performed in two stages. The first stage consists of a permanent vasostomy leaving the skin edges apart to permit the formation of an area of soft hairless epithelium. The patency of the vas is determined by vesiculography. In the second stage the first step is dissection of the vas and a cuff of skin. The epididymis is then aspirated for spermatozoa. If spermatozoa are found it is freely incised or cut across. If spermatozoa are not found epididymectomy is performed and the rete is cut across. Bleeding is controlled and the umbrella of skin with the vas is sutured around at some distance from the opening in the epididymis or the cut rete. The skin incision is closed without drainage.

ANDREW McNALLY M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Fariñas, P. L., and Inclán, A.: *The Contribution of Arteriography to the Differential Diagnosis of Bone Lesions* (Contribución de la arteriografía al diagnóstico diferencial de las lesiones óseas) *Cirugía ortopédica y traumatología*, 1935, 3 69

While the authors have employed arteriography chiefly in cases of advanced lesions already diagnosed, they are of the opinion that it will prove of most value in the differential diagnosis of early lesions of bones of the extremities, and that the information it yields with regard to circulatory changes may explain the etiopathogenesis of formerly obscure and unknown lesions.

It is a method by which the circulatory changes described by Caldas can be discovered early and beginning neoplasms can be differentiated from tuberculous osteitis, syphilis of bone, and osteomyelitis.

After injection of the principal artery with thorotrast vasographic signs may demonstrate the pedicle of a tumor by a network of newly formed vessels of the same size running radially or parallel. These lines may be angulated and distributed in a manner suggesting proliferation of the tumor. In tuberculous and inflammatory lesions the vessels show a regular normal disposition but suggest a hyperemic condition by an increase in their size. In syphilis and chronic osteomyelitis an ischemic aspect of the normal distribution of the vessels is seen. An unusually prompt appearance of the venous circulation suggests malignancy, especially sarcoma.

Arteriography should be used routinely for early diagnosis, but should not be employed to confirm the diagnosis of old lesions the nature of which has already been determined with considerable certainty. It is quite innocuous when carried out with thorotrast.

The authors report ten cases in which it was used with successful results. WILLIAM R. MEEKER, M.D.

Finkelstein, H.: *The Correction of Rachitic Deformities by Preliminary Decalcification*. *J. Bone & Joint Surg.*, 1935, 17 780

In the usual present-day treatment of rachitic deformities, antirachitic therapy and recumbency are regarded as indicated in the acute stage, expectant, manipulative, or mechanical methods to lessen the deformity are employed when the condition is subacute, and operative measures are used only when the process is arrested and the bones have hardened. Unfortunately, under such treatment a considerable percentage of children with rickets reach advanced childhood with residual bone deformities of varying degree. It is not surprising,

therefore, that in recent years attempts have been made to attack the deformities earlier in the hope of preventing subsequent complications. Of these attempts, the procedure suggested by Rabl is rather ingenious. After preliminary softening of the deformed bones by the internal use of ammonium chloride (0.2 gm. per day per kilogram of body weight of a 4 per cent solution) and the application of a tight rubber bandage to the deformed limb to produce venous congestion, Rabl corrects the deformities manually under anesthesia. During the preliminary treatment he discontinues all antirachitic therapy, but immediately after the redressment he institutes energetic general antirachitic treatment. He considers this method absolutely indicated in the cases of children under two years of age.

The objection to this form of treatment is obvious. There is no known internal decalcifying agent which has a selective action. The decalcifying process following the ingestion of certain foods or internal medication is of necessity general in character.

Local decalcification is produced most simply and safely by absolute immobilization of the part, preferably in a plaster cast, and disuse.

Since 1931 the author has treated about fifty cases of rachitic deformities of the lower extremities by conservative measures. The patients ranged in age from eighteen months to three years. Some of them were in the active stage and others the quiescent stage of rickets. Finkelstein's usual method of procedure is as follows:

Preliminary decalcification. Roentgenograms and photographs are taken. In cases of bilateral deformity of the lower extremities, a double plaster spica is applied from the waist to the toes. The patient is kept in bed. All antirachitic measures are suspended. After four weeks, another roentgenogram is taken and compared with the original roentgenogram to determine the degree of atrophy. The patient is then prepared for anesthesia.

Correction of the deformities. After removal of the casts the skin is cleansed with benzine and alcohol. Then, by gradual force, the limbs are slowly bent into a slightly overcorrected position. In mild cases it is possible to straighten the limbs without fracturing the bones. In severe cases, greenstick fractures are produced. Excessive force and complete transverse fractures with displacement of fragments are avoided. In cases of multiple fractures, both tibiae, both fibulae, and both femora are corrected at one sitting. In manual correction the attempt is made to restore the normal relationship of the affected bones, special attention being directed toward paralleling the lower femoral and the upper and lower tibial articulations as suggested by Milch. Extreme overcorrection of the deformities is unnecessary. Im-

mediately after the correction a double plaster spica is applied. When the plaster is thoroughly dried roentgenograms are again taken to determine the extent of improvement. If further correction is required the plaster cast is wedged.

Subsequent re-alcification. A few days after the redressment general antirachitic measures are instituted. These consist of a diet with a high vitamin content, the administration of calcium phosphate and cod liver or haliver oil with viosterol and exposure to ultraviolet irradiation. As soon as the roentgenograms show sufficient re-alcification massage and exercises are begun and gradually increased weight bearing is encouraged.

Subsequent routine examinations are advisable over a prolonged period to determine the permanency of the correction and to detect recurrences as early as possible.

The end results of this treatment have been most gratifying. No major complications have occurred. The hospitalization period is very short, rarely exceeding ten days. The preliminary and subsequent treatments can be given in the out patient department. The fact that no open operation is necessary appeals strongly to the parents. Moreover the complications which occasionally follow open operations such as displacements due to muscle pull malunion infection osteomyelitis delayed union and non union are entirely avoided.

The described treatment is far superior to the tedious and painful corrective brace treatments which yield uncertain results. The chief advantage of the conservative treatment lies in the fact that the deformities are attacked early with consequent prevention of the complicated distortions so often seen in later childhood which necessitate the difficult procedures recommended by Sorrel Loeffler Springer and Kirschner and are striking evidence of the ineffectiveness of the simpler osteotomies in advanced cases.

The authors' conclusions are summarized as follows:

1. Rachitic deformities should be attacked as early as possible in order to prevent the development of subsequent complicated distortions.
2. The conservative method described adequately corrects the early malformations.
3. Ample time has elapsed and a sufficient number of patients have been treated to warrant the assumption that the results obtained by this method are permanent.

—NORMAN C. BULLOCK, M.D.

Franseen C. C. and McLean R. The Phosphatase Activity of Tissues and Plasma in Tumors of Bone. *Am. J. Cancer* 1935 24 290

Since phosphatase has been found in large quantities at sites of ossification in embryos and children it seemed reasonable to assume that it might be found in large quantities also in tumor tissue in which osteogenesis is taking place. The authors have demonstrated a uniformly high degree of phosphatase activity in the tumor tissue in all cases

of true osteogenic sarcoma and values in other tumors involving bone in proportion to the degree of osteogenesis. An attempt was made to correlate the phosphatase activity of the tissue with that of the blood in patients with bone tumors but in many cases it was necessary to study either the blood or tissue alone.

The technique of the procedures described in detail both for blood plasma phosphatase and tissue phosphatase. All values up to 20 units per cubic centimeter were regarded as normal.

A series of thirty seven cases is presented. The tumor tissue or blood in cases of osteochondroma, chondrosarcoma, chondroma adamantinoma multiple myeloma endothelial myeloma giant cell tumor and the osteolytic type of osteogenic sarcoma representing a total of twenty seven cases showed either a normal or only slightly elevated phosphatase level.

A group of nine cases of the osteoblastic type of osteogenic sarcoma showed an increase in the phosphatase activity the highest being between twenty and forty times normal. This was a tremendous increase over that in all other types of tumor tissue examined including both primary and secondary tumors of bone and of contiguous soft parts. One case was classified as undetermined type of sarcoma because the elevated blood phosphatase level was affected neither by surgical removal nor by recurrence although grossly and microscopically elevated had the appearance of an osteogenic sarcoma.

In four cases of osteoblastic tumor in which repeated blood studies were made after operation the phosphatase fell rapidly to a normal level after removal of the osteogenic focus. With recurrence of the tumor elevation of the plasma phosphatase was noted. The authors therefore suggest that this observation be borne in mind in the follow up of patients treated for osteogenic sarcoma.

Two cases which were inoperable when first seen showed a progressive fall in the plasma phosphatase level accompanying terminal anemia anorexia and emaciation which was due to necrosis of the central portions of the tumor masses producing the phosphatase.

In one case the only one treated by roentgen irradiation alone the production of phosphatase was temporarily arrested but additional irradiation is required before a definite statement concerning the effect of roentgen therapy can be made.

In spite of the extensive destruction of bone in cases of multiple myeloma the phosphatase of the blood is usually normal indicating slight reparative qualities in these lesions. This factor may be of aid in the differential diagnosis of metastatic carcinoma of the bones and multiple myeloma.

The authors conclude that their findings support the theory that phosphatase is synthesized by the osteoblasts. The increased production of phosphatase by the osteoblasts in osteogenic sarcoma increases the number of instances in which cells having become neoplastic continue to produce their

physiological secretion and are thereby recognized. This is good evidence of the synthesis of an enzyme of a neoplastic cell
 RUDOLPH S. REICH, M.D.

Coley, W. B.: Malignant Changes in the So-Called Benign Giant-Cell Tumor. *Am J Surg*, 1935, 28: 768

Coley reports in detail seventeen cases of malignant changes in a so-called benign giant-cell tumor which were demonstrated by roentgen and microscopic examination. He states that the incidence of such changes in these tumors is probably about 15 per cent and that therefore every effort should be made to arrive at a correct diagnosis as early as possible and the patient should be informed that an apparently cured giant-cell tumor is still a source of danger. He believes that in the treatment of such tumors curettage should not be followed by irradiation, and that if irradiation is employed it should be used alone. From his extremely large experience with giant-cell tumors he concludes that the best procedure is surgery followed by treatment with Coley's toxin for from four to six weeks. He questions the advisability of continuing to use the term "benign giant-cell tumor" for these neoplasms in preference to the old term "giant-cell sarcoma."

PAUL C. COLONNA, M.D.

Buus, C. E. P.: Articular Changes in Hemophilia. *Acta radiol*, 1935, 16: 503

The author describes the characteristic articular changes occurring in hemophilia and presents roentgenograms of two cases seen in the State Hospital, Copenhagen.

He has observed characteristic sharp angulations in the joint surface which later resulted in an abrupt rectangular break such that part of the joint surface sank to a lower level. He discusses the causes of this phenomenon which he believes has not been described previously.

He then reviews the pathologico-anatomical changes as demonstrated by Freund, Reinecke, Wohlwill, and Key and discusses their origin.

In conclusion he discusses the difficulties in the diagnosis and presents the roentgenograms made in two cases in which the diagnosis was uncertain.

Conti, G.: Parathyroidectomy in Ankylosing Polyarthritides (La paratiroidectomia nella poliartrite anchilosante). *Ann ital di chir*, 1935, 14: 239

In reviewing the literature on the relation of the parathyroid glands to calcium metabolism and certain lesions of the bones and joints, Conti cites Oppel's relatively recent article calling attention to the relation between parathyroid function and chronic ankylosing rheumatism. In two-thirds of fifty cases of arthritis deformans Oppel found an increase in the calcium content of the blood which he ascribed chiefly to hyperfunction of the parathyroids.

Conti believes that the hypercalcemia found in chronic rheumatism is not always due to hyper-

function of the parathyroid glands. In support of this opinion, he cites records of cases of polyarthritides in which improvement followed the administration of parathyroid extract.

He reports two cases of polyarthritides which were treated by parathyroidectomy. The first was that of a woman twenty years old who, ten years previously, had suffered an attack of arthritis in both wrist joints which was accompanied by severe pain and fever and terminated in ankylosis. Six years later she had a recurrence of the condition and both hip and knee joints became ankylosed in full flexion. Diathermy, massage, and traction reduced the degree of flexion, but the recurrences continued.

Under novocain anesthesia a thyroidectomy incision was made, the thyroid gland was exposed, and two small bodies of what appeared to be parathyroid tissue were removed. Immediately after the operation the patient felt relieved and when discharged she was able to walk unsupported.

Histological examination of the removed mass disclosed an active hyperplastic reaction of the connective tissue and a cavity which probably represented the remainder of a parathyroid gland which had atrophied as the result of a degenerative process.

After the parathyroidectomy the blood calcium decreased rapidly, but at the time of the patient's discharge had reached almost the original level.

The second case reported was that of a man twenty-eight years old who gave a similar history. After parathyroidectomy the patient felt much better, but the function of the involved joints could not be restored. Postoperatively there was a hypercalcemia. This was followed by a rapid drop of the blood calcium, but the ultimate value was approximately the same as that found originally.

Conti attributes the failure of the operation in this case chiefly to the chronicity of the condition. He states that in old chronic rheumatic processes in which the ankylosis is far advanced parathyroidectomy is of very little value. RICHARD E. SOMMA

Wohlfahrt, S., and Wohlfahrt, G.: Microscopic Studies on Progressive Muscle Atrophies, with Special Regard to the Findings in the Spinal Cord and Muscles (Mikroskopische Untersuchungen an progressiven Muskelatrophien unter besonderer Rücksichtnahme auf Rückenmarks- und Muskelbefunde). *Acta med Scand*, 1935, Supp. 63

Histopathological studies were made in twenty-three cases of localized muscle atrophy of a progressive nature and of different origin. In sixteen cases, sections of muscle were taken for diagnosis, and in fifteen cases the spinal cord was studied microscopically. The findings and the conclusions drawn from them are summarized as follows:

1. By following the indications of Slauck, progressive muscular dystrophy and the myotonic dystrophy, on the one hand, and amyotrophic lateral sclerosis, spinal progressive muscle atrophy, on the other, could be differentiated from one another by microscopic examination of excised muscle.

2 The neurogenic progressive muscle atrophy (Charcot Marie type) shows a predominant muscle dystrophy and seems to be related in more than one respect to progressive dystrophy.

3 The muscle findings in myotonia congenita (Oppenheim) are characteristic and hardly to be confused with those of other muscle diseases.

4 When the microscopic findings in the spinal cord were used as a guide to diagnosis a marked agreement with the muscle findings was found whereas the clinical symptom picture sometimes pointed in another direction. In such cases a diagnostic excision of muscle may often indicate the nature of the condition or confirm the clinical diagnosis. This method therefore deserves greater recognition.

5 In the fifteen cases in which autopsy was performed the lateral horns and the so-called intermediary cells of the spinal cord (nuclei to which some observers have ascribed certain sympathetic functions) showed no microscopic changes of a definitely pathological nature although marked degeneration of the anterior horn was often present.

6 In one well advanced case of amiotrophic lateral sclerosis there was found in the gray substance of the cord a well isolated and distinctly visible tract running from the posterior horn to the anterior commissure which very probably consisted of afferent sensory fibers namely the spinohalamic and spinotectal tracts and uncrossed portions of Gower's tract.

7 The localization of cell destruction and the reactive gliosis on the one hand and the clinical symptoms on the other in cases of spinal muscular atrophy and amiotrophic lateral sclerosis support the theory of Bok that the motor nerves to the peripherally lying musculature of the extremities have their origin in the most lateral portions of the anterior horn.

8 In the muscle atrophies produced by a primary injury to the peripheral motor neurons the muscle fibers become atrophied in groups probably because every motor anterior horn cell innervates several muscle fibers which therefore become atrophied simultaneously when degeneration of their nerve cells or nerve processes occurs.

9 On cross section the groups of atrophied muscle fibers mentioned are usually found distributed over the entire surface of a primary muscle fiber bundle. Fields of more or less markedly atrophied muscle fibers are therefore found together or mixed with normal fibers. This may be explained by the hypothesis that a primary muscle fiber bundle is usually innervated by several anterior horn cells.

10 The so-called Ringbinden described by Scriban, Heidenhain and others as characteristic of progressive muscular dystrophy and myotonic dystrophy appear also in normal muscle and probably have no close relationship to those disease processes.

11 The fatty degeneration of the muscle fibers seems to bear no constant relationship to atrophy or

hypertrophy. In the muscle fiber the fat droplets are found almost without exception within the anisotropic segments both in myogenic muscle atrophies and muscle atrophies produced by injury to the anterior horn.

12 Rare muscle findings of theoretical interest were a so-called lateral budding in a case of spinal progressive muscle atrophy and the occurrence of sarcoplasmatically hypertrophied muscle fibers in a case of spinal progressive muscle atrophy.

LOUIS V. F. WATTS, M.D.

Filippini, A. The Healing of the Intervertebral Disk

After Removal of the Nucleus Pulposus in Experimental Animals (La guarigione del disco intervertebrale dopo la portazione del nucleus pulposus negli animali da esperimento) *Chir. d'organi da movimento* 1935 31 1

The author believes this to be the first report of a study of the healing of the intervertebral disk after removal of the semi liquid portion, the nucleus pulposus.

The nucleus pulposus constitutes a center of support on which the vertebrae whatever their load may move as on a fulcrum which is rigid in its function yet elastic to violent force. By means of this force transmitted along the spine is diminished before it reaches the head. Being a liquid mass it is incompressible but because of the elasticity of the fibrous portion of the surrounding disk it may be slightly deformed by external pressure. Its elasticity protects it from trauma fairly well. Only exceptionally does severe trauma produce lesions of the disk.

Rupture of the nucleus pulposus is manifested clinically and roentgenologically by diminution of the intervertebral space and the late development of a deforming arthritis which may represent the healing process. There is no tendency toward a return to normal.

In the author's study which was made on rabbits the anterior borders of the intervertebral disks of the third and fourth lumbar vertebrae were exposed through an anterior approach the fibrous ring then being incised deeply to allow escape of the gelatinous substance of the nucleus pulposus. After varying periods of time ranging up to one hundred days the animals were sacrificed and the disks studied anatomically.

After ten days there was no sign of fibrous proliferation. The fibrocartilaginous elements had lost their normal arrangement the tissue appearing completely disorganized. This disorganization was probably the result of a major disturbance of the mechanical equilibrium which depends so largely upon the nucleus. Disturbances of the blood supply were probably not important. Evidence of regeneration of the annulus fibrosus became apparent about twenty days after the injury. Proliferation of fibillary fascicles occurred at the periphery of the bone. After forty days the disk was filled completely with fibrocartilage. There was no trace of the

twenty to thirty minutes. The joint is permitted to fill with fluid like a balloon and then to collapse, whereupon the fluid is allowed to escape carrying away pus fibrin and other débris. The attempt is then made to obtain a water tight closure of the synovial membrane and capsule. As a rule the skin is also closed. A cast is then applied to keep the joint at rest and the patient's progress is determined from the general condition temperature pulse, respiration, blood picture and urinary findings as well as the local symptoms and signs in the knee.

If signs of an unfavorable change are noted in the succeeding days and in portion of the joint reveals considerable effusion another washing is done. When the acute symptoms in the joint have subsided guarded motion is begun. In some cases this is started as early as ten days after the washing of the joint. A careful search is made for the source of the infection. Most frequently the joint condition has been attributed to septic teeth septic tonsils or gonorrhea. Severe involvement of the gums by Vincent's angina has been regarded with suspicion. The surgeon must be ever on the alert for a focus of osteomyelitis associated with a septic joint lesion.

The author reports eight cases in which this treatment was used. Three were his own and five were treated by Ellis Jones.

In discussing these cases he says that when a distant focus of infection is found eradication of this focus is indicated in addition to the joint washing. In six of the eight cases reported trauma and a distant focus of infection seemed to be closely related to the production of the purulent arthritis.

The choice of cases for the joint washing procedure is important. There are fulminating cases of septicemia causing death in a few days in which a suggestion of joint localization precedes death by a few hours. Such cases are not amenable to any type of treatment. At the other extreme are cases of mild inflammatory effusions in which neither the clinical findings nor the character of the aspirated fluid indicates anything more than aspiration, the application of local heat or Bier's hyperemia and rest in bed. It is in the intermediate type of case such as those reported that the joint washing procedure seems particularly indicated. Even very acute purulent joint conditions may respond to it.

NORMAN C. BULLOCK, M.D.

Béyout A. Dupuytren's Disease (*La maladie de Dupuytren*). *Rev. de chir.* 1935 54 351

The author's observations are based on a series of sixty-eight cases of Dupuytren's disease fifty of which were treated surgically. This is the largest single series thus far reported. The pathology and histology of the disease are discussed. Of the cases reviewed the condition was due chiefly to exogenous factors in fifty six and to endogenous factors in twelve. In forty eight of the former the exogenous factor was chronic trauma and in eight acute trauma. The nature of the endogenous factors could

not be determined by either biochemical studies or general examination of the sympathetic nervous system. No direct relation was found between Dupuytren's disease and diseases of the joints.

The author distinguishes three stages in the development of Dupuytren's disease. The first stage is characterized by induration of the ulnar portion of the palm, the second by the formation of tendinous bands radiating toward the first phalanges and causing the latter to contract and the third by irreducible flexion deformity of the fingers. In some cases the condition never passes beyond the first stage, whereas in others it passes through all three stages in a very short time. In most of the cases reviewed the course was slow with remissions from three to thirty years between the stages.

Of the conservative methods of treatment radiotherapy gave the best results but was not invariably successful. The use of fibrinolytic proved unsatisfactory. Ionization was employed only after operation.

The operation performed in the surgically tested cases was a modification of the Kocher procedure based on the principle of as complete removal as possible of the diseased portion of the palmar aponeurosis. The author states that the most important step is the exposure of the affected aponeurosis under local anesthesia by means of suitable incisions and the use of a constructor. Most frequently he made vertical ellipsoid or oval incisions to which in the presence of skin defects he added semi-oval incisions forming lateral flap.

Liberation of the flexed fingers was usually effected by making an oval incision at the level of the second phalanx on the palmar side and removing three bands of a thetosis passing to the finger from the aponeurosis. In some cases however incision of the retracted tendinous sheath was necessary in addition.

On removal of the hemostatic band bleeding was carefully controlled and the wound sutured with silk after careful approximation of its margins. A light dressing was then applied with the fingers in slight hyperextension.

The sutures of the wound were removed at the end of fourteen or fifteen days. The fingers were not permitted to assume their normal position until after that time. Early movement and exercise are beneficial but massage is contra indicated. Later ionization may be used. In some of the cases reviewed prophylactic radiotherapy was applied. In two cases Peiser's free fat transplantation was done but in one case was followed by aseptic necrosis and separation of the wound margins. The post operative anesthetic which occurs occasionally is not lasting. In five of the reviewed cases the author performed Lecher's operation and covered the wound with a pedicled skin flap from the chest.

Of forty four cases traced after two years satisfactory results were obtained in thirty five and permanent functional improvement resulted in three. In two cases the immediate results and in four cases

the end-results, were not satisfactory. A few patients with rapidly progressing Dupuytren's contracture developed recurrences. The author believes that these patients were hypersensitive, and that the technique of the operation was not responsible for the poor result.

In conclusion he says that surgery is not indicated in the first stage in which the pathological changes and functional disturbances are not marked. In the second stage operation should be performed without hesitation as the pathological changes are clearly evident on microscopic examination and removal of the diseased tissue yields the best results. In the third stage the results of operation are not satisfactory.

EDITH SCHANCHE MOORE

Page, C. M.: Late Results of the Operative Treatment of Osteo-Arthritis of the Hip Joint. *Lancet*, 1935, 228, 1313

With the development of asepsis and radiology, surgery is becoming more generally employed in the treatment of osteo-arthritis of the hip joint. Opinion varies as to the method to be used. The author presents his opinion based on a review of the literature and an analysis of 100 cases operated on by him in a period of fifteen years.

The local causes of the disease are (1) trauma, such as old fractures, particularly those involving the articular surface, (2) nutritional diseases of bone in childhood—Legg-Calvé-Perthes disease and perhaps slipped epiphysis, (3) congenital deformities and dislocations, (4) disturbance of the blood supply to the articular area, osteochondritis dissecans, and (5) subacute infection of the joint.

The general causes are the circulation of toxic materials in the blood stream and interference with the nerve supply to the articular surfaces.

The lesion discussed by the author as osteo-arthritis is characterized by absorption of the articulating cartilage and secondary sclerosis of the underlying bone associated with the formation of cysts and marginal hypertrophy of the synovial membrane. Small-celled infiltration of the capsule of the joint and fibrosis of the surrounding muscles are the result or the forerunner of the disease. While one joint, particularly the hip, may be involved predominantly, the condition is usually present to some degree also in other joints.

Pain is most in evidence in the early stages of the disease and subsides when the articular cartilage has been completely eroded and the underlying bone has become sclerosed. It may be due to irritation of the nerves underlying the articular cartilage. The origin of the pain is often determined only by trial and error in treatment.

The deformity constantly observed is flexion and adduction of the thigh. When the patient stands, secondary lordosis and lateral curvature of the spine are produced, imposing strain on the sacro-iliac articulation and the joints of the lumbar spine.

Surgery should be undertaken only after conservative measures have proved unsuccessful.

The various types of operation are described. Manipulation of the joint and stretching of the adductors followed first by immobilization in a plaster cast for approximately a month and then the application of a caliper brace, as advocated by Camitz, simple subtrochanteric osteotomy of the neck of the femur or the bifurcation operation, Albee's arthrodesis operation with the use of a bone graft, the Whitman reconstruction operation to obtain a movable joint after the removal of abnormal bone, the buttress operation of Lance, in which a bony block is formed above the joint to prevent progressive dislocation, and other procedures.

From a review of the results of attempted arthrodesis and arthroplasty, the author concludes that when the disease is limited to one hip and the general condition is good, the operation of choice is arthrodesis by the Smith-Petersen approach and with the use of an iliac graft. For cases in which both hips are involved or the lumbar spine is stiff, he recommends a reconstruction operation by the Murphy approach. This procedure is especially recommended for elderly patients.

Of 69 operations in which arthrodesis was attempted, the results of 49 were good; those of 12, moderately good, and those of 8, poor. Of 19 operations aiming at arthroplasty, the results of 6 were good, those of 4, moderately good; and those of 6, poor. The interval between operation and restoration of function ranged from eight months to two years.

The complications included pressure sores, wound hematoma, suppuration, deep venous thrombosis, and, in 4 cases, mental disturbances.

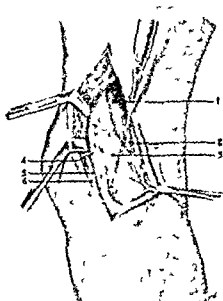
Page concludes that in osteo-arthritis of the hip radical surgery is justified in spite of the difficulties experienced by both the surgeon and the patient.

RUDOLPH S. REICH, M.D.

Pereyra, R., and Palma, E.: Drainage of the Knee Joint (Consideraciones sobre el drenaje de la articulacion de la rodilla). *Arch. uruguayos de medicina y especial*, 1935, 6, 531.

Efficient drainage of the knee joint is rendered difficult by the anatomical structure of the joint which presents extensive articular surfaces and complicated synovial recesses. Anatomical studies confirm the conclusions of Henderson regarding the distribution of the synovial pouches. These pouches are divided into anterosuperior and antero-inferior compartments which may be further subdivided into lateral and external sections. A posterior pouch is also divided into two sections—a lateral and a medial—which are usually separated by a middle septum.

Vertical internal and external incisions are proposed. In the internal approach the authors incise the skin and subcutaneous tissues vertically, parallel with the longitudinal axis of the leg, at the medial middle point. The incision is begun about 1 cm. below the line of the femorotibial articulation and extended upward from 8 to 12 cm. The underlying



- 1 Descending branch of the great anastomotic artery
 2 Superior interosseous ligament 3 Tensor of the palmar fascia
 4 Bottom of the synovial articular sac
 Dotted line shows line of incision 5 Quadriceps expansion
 6 Superficial aponeurosis

aponeurosis is then similarly incised and its margins are retracted with the skin and subcutaneous tissues. The posterior-inferior margin of the vastus and the intermuscular septum are liberated by blunt dissection. Near the upper margin of the incision it is often necessary at this stage to ligate a transverse articular artery.

By retraction of this muscle and the intermuscular septum the base of the subquadriceps pouch is exposed. A small opening is made in the most dependent part and the incision then extended upward. Thereby the joint may be exposed as much as desired.

These incisions are of advantage as all ligamentous structures are conserved, joint function is not impaired, and ample drainage is afforded. Because of the ample drainage phlegmonous infection of the peritarticular cellular tissue is not likely to occur.

WILLIAM R. WEEKER, M.D.

FRACTURES AND DISLOCATIONS

Bary L. and Galtier M. Surgical Treatment of Isolated Forward Luxation of the Lower End of the Ulna (Traitement chirurgical de la luxation isolée de l'extrémité inférieure du cubitus en avant). *J. de Chir.* 1935 45 369

Isolated forward dislocation of the lower end of the ulna is a rare injury resulting from a forced movement of supination. If recognized early it

can be easily corrected by forced pronation. Because of the enormous swelling of the wrist following accidents of this nature the condition often remains unrecognized, especially as it may not cause pain.

In a case observed by the authors the dislocation gave rise not only to marked functional disturbances but also to severe pain in the displaced bone, apparently caused by decalcification which was evident in the roentgenograph and found at operation. The operative technique used, which gave very satisfactory results, was as follows:

A vertical incision was made along the internal margin of the ulna between the two tendons of the anterior and posterior ulnar muscles from the crease at the wrist. This incision was extended to the bone, the periosteum of which was carefully incised and maintained intact for use at the end of the operation. A Gigli saw was then passed around the bone and the lower end of the bone resected at a distance of 2 or 3 cm. Removal of the lower end of the ulna did not expose the internal surface of the radius as this was still covered by the internal part of the periosteal envelope of the ulna, the remains of the capsule of the inferior radio-ulnar joint, and the ligament connecting the radius with the ulna above. Care was taken to avoid tearing these fibrous tissues. They were divided by a fine vertical incision. Thus the whole periosteal and ligamentous apparatus was divided into two halves and access gained to the internal surface of the radius. A small rectangular bony flap was then cut and turned downward. This flap was kept in place by suturing over it first the superior ligament and remains of the capsule of the inferior radio-ulnar joint and finally the periosteum. This fibrous envelope eventually becomes infiltrated with calcium which increases its solidity. After closure of the skin wound the wrist was placed in a light plaster cast in forced supination for fifteen days and at the end of that time massage and mobilization were begun.

ELMER SCHWARTZ, M.D.

Speed K. Fractures of the Bodies of the Vertebrae. *Ann. Surg.* 1935 102 10

Before their reduction fractures of vertebral bodies should be studied with great care roentgenologically to determine the type of the injury. Speed describes three types: (1) a collapse of the body by compression which can be easily demonstrated early by roentgen examination, (2) the breaking off of a fragment from the upper surface of the body and its displacement forward and downward by compression flexion and (3) combined flexion compression with lateral displacement which may be associated with greater cord pressure symptoms.

For the second type he advises reduction by rapid hyperextension by the Jones method or on a hyperextension bed followed by the use of an ambulatory plaster-of-paris jacket for from ten to fourteen weeks. If at the end of that time the roentgenogram shows proper density and healing he applies a spinal brace which he leaves on until full restoration of the

bone trabeculae is found. For cases with marked compression and broadening or lateral displacement he advises reduction by hyperextension plus traction on the head and feet over a period of hours, followed by the use of a plaster bed for from eight to twelve weeks and then the application of a plaster jacket or back brace. In some cases it may be necessary for the patient to wear the plaster jacket for from six to twelve months.

BARBARA B. STIMSON, M.D.

Telson, D. R., and Ransohoff, N. S.: Treatment of the Fractured Neck of the Femur by Axial Fixation with Steel Wires. *J. Bone & Joint Surg.*, 1935, 17: 727.

The authors describe their method of inserting wires in fractures of the neck of the femur. After the injection of from 10 to 15 c.c. of a 2 per cent solution of novocain into the hematoma at the fracture site the displacement is corrected by manipulation by the Leadbetter method. Roentgenograms are then taken to determine the position. When accurate reduction is obtained measurements are made on the roentgenogram to determine the point of entrance, direction, and depth of insertion of the wires, and a correction is made to allow for the difference between

the true measurements and those on the roentgenogram. The wires are then driven in by means of a motor drill. Skin anesthesia is unnecessary. A movable collar to control the length of the wire is added to the drill and the apparatus held immobile by a stabilizing prong inserted into the side of the femur. After the insertion of the first wire a roentgenogram is taken and the position again checked. If the position is satisfactory, two other wires are inserted at different angles and roentgenograms are again taken. The projecting ends of the wires are clipped close and the skin is allowed to cover them. No dressing is necessary.

After this treatment the patient is permitted to sit up in bed immediately and may be placed in a wheel chair within a day or two. The only apparatus used is a short posterior splint at the ankle fixed to an 8-in. crossbar to prevent external rotation.

The wires are removed at the end of ten weeks if the roentgenograms made at that time show sufficient union.

The results in twenty-five cases are presented in a table. Of the seventeen cases which have been followed for from one to three years, bony union has occurred in twelve and fibrous union with good function in three.

BARBARA B. STIMSON, M.D.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Colt G H Ramsay, I S W and Morrison M M
M The Injection Treatment of Varicose
Veins *Br J Med* 1935 2 49

The authors studied the injection treatment of varicose veins to determine the late results and the incidence of recurrence. They divide the cases into the following 3 groups

Group 1 Cases in which the condition becomes chronic. In such cases there is a multiple sponge work of relatively small varicosities and although the symptoms are greatly relieved by injection treatment alone numerous varicosities having a large total blood volume remain. Some cases of this type present in the late stages a single main trunk which can be either injected or ligated but in the majority such a fortunate termination does not occur. It appears that this is the one type of the condition in which if a diagnosis can be made early preliminary ligation of the internal or external saphenous vein or both should be done and in some cases combined with injection.

Group 2 Cases with a single varicosity generally with a positive Trendelenburg sign. In such cases almost any type of sclerosing solution injected into the empty vein will give a good and lasting result. Ligation of the vein is unnecessary.

Group 3 Cases of more extensive varicosities with a positive Trendelenburg sign and perhaps also evidence of a greater or less degree of deep reflux. These are treated most effectively with the more caustic solutions.

In their discussion of so called recurrence the authors state that the following 3 chief factors are involved: (1) the natural course of the condition in its various manifestations; (2) the degree of completeness of the thrombosis in the venous area under consideration; and (3) the varicosity observed in the injected and adjacent areas. In the cases of 160 patients under continuous observation from June 1927 to June 1934 29 per cent of the limbs showed no new varicosities, 19 per cent developed new varicosities and 40 per cent showed either complete thrombosis or recanalization.

Except for the occasional trial of a different solution in well defined cases the salicylate (40 or 50 per cent) and saline (10 per cent) solution was used. This is the most reliable of all the non-toxic guidable solutions and rarely fails although sometimes the reaction is excessive if the blood stream is sluggish and the dose is not adjusted accordingly. In general the injections were given into the empty vein from below upward and the solution was guided into the tributary areas as required. The injections were seldom made with the patient in the standing or

sitting position. They were usually given alternately to each leg at intervals of a month but when the varicose areas were not too closely adjacent they were given at intervals of two weeks.

The recognized causes of necrosis are (1) injection outside the vein; (2) bursting of the tributary junction; and (3) injection into the substance of the vein wall. While these causes were largely avoided in the cases reviewed necrosis occurred occasionally. The explanation seemed to be that because of the loss of elasticity in the wall of the vein following a previous injection the vein did not seal itself and the puncture leaked. If withdrawal of the needle is delayed longer than usual the solution will become more dilute and innocuous. For the treatment of cases with ulcer the authors regard the old fashioned Unna paste casing applied in the old way and from the toes to the knee as most satisfactory. Before its application the edema should be reduced and the blood drained by elevating the limb for twenty minutes while the patient lies supine.

The authors conclude that injection treatment with salicylate saline solution is safe and satisfactory in the 2 chief types of varicose veins. In a third type it gives poor results. Although great amelioration takes place a cure is not obtained. From the results reported it is as yet impossible to determine whether greater amelioration is obtained from operation alone or from operation combined with injection.

In a very small percentage of cases injection alone is not entirely successful and ligation of the internal saphenous vein below its upper end is indicated in addition. However the evidence does not justify primary saphenous ligation in preference to primary injection with salicylate saline solution. Experience seems to show that almost all cases in which other solutions have failed can be treated successfully with salicylate saline solution. The converse is not true but sodium morrhuate appears to be satisfactory in short lengths of vein when salicylate fails.

Improvement in the pathological diagnosis of cases in which injection treatment is unsuccessful may be expected from the newer roentgenological methods of investigation. Unna's paste bandage applied in the hydrostatic manner gives much better results than the modern application of elastic pressure.
HERBERT F THURSTON M.D.

Veaf J R and McFetridge E M Primary Thrombosis of the Axillary Vein. An Anatomical and Roentgenological Study of Certain Histological Factors and a Consideration of Venography as a Diagnostic Measure. *Arch Surg* 1935 31 271

The authors report two cases of primary thrombosis of the axillary vein and studies made on a living

subject and fresh autopsy material to determine the cause of the condition

Their first case was that of a youth nineteen years of age who was in the habit of sleeping with his right arm above his head. Twenty-four hours before his admission to the hospital the patient was suddenly awakened from sleep by pain which extended from the axilla down the whole arm and was associated with a stinging sensation in the finger tips. Almost simultaneously with the onset of the pain the arm began to swell. A venogram made with a stabilized solution of thorium dioxide on the third day after the patient's admission revealed a point of obstruction in the axillary vein distal to the first rib. The treatment consisted of elevation of the arm on pillows and the use of the heat tent. In order to make an injection into the basilic vein it was necessary to make a small incision over the vein because of the intense edema. A profuse flow of edematous fluid poured from the incision for seven days. At the end of ten days the arm was practically normal in size and appearance and the patient was discharged.

Second case was that of a woman twenty-two years old who presented herself with large dilated veins on the right shoulder and the upper right portion of the chest. She stated that seven years previously the whole right arm and hand were involved in an acute swelling of unknown origin accompanied by pain in the axilla and arm. This subsided in a few weeks without active treatment. The dilation of the veins had developed gradually since that time. Venography revealed an obstruction of the axillary vein distal to the first rib and a rather extensive collateral circulation.

In their discussion the authors state that the clinical diagnosis rarely presents any difficulties. Characteristic features are the suddenness of the onset and the rapid development of the swelling which occurs simultaneously with the onset of pain. As a rule a history of indirect trauma can be elicited, and in most acute cases the affected vein can be palpated in the axilla as a firm painful cord. In the future it should be possible to establish the diagnosis absolutely in doubtful cases by vasography.

In the treatment, conservative measures should always be employed first. These include rest, immobilization or elevation of the arm, bandaging, and physical therapy. Under such treatment in ordinary cases the edema is relieved and either recanalization of the vein takes place or an adequate collateral circulation develops. When these measures are not promptly beneficial operation should be performed. The operative procedure should be either simple excision of the clot, which is ordinarily sufficient, or excision of the entire affected segment.

The authors briefly discuss the theories regarding the etiology of the condition held formerly and today. Various investigators have attributed the thrombosis to infection, but in the cases of Wilson and Lowenstein it is probable that tuberculosis and syphilis were coincidental rather than causative.

The theory that infection is the cause is opposed by both clinical and bacteriological evidence. However much they may differ as to the mechanism, all recent students of thrombosis of the axillary vein agree that trauma, plus some anatomical predisposing cause, is the factor responsible.

In a detailed description of the anatomical relationship of the axillary vein to surrounding structures the authors call attention to the fact that when the arm is hyperabducted and externally rotated the relations between the vein and the subscapularis muscle and between the vein and the head of the humerus are immediately altered. In their roentgen studies they found that the obstruction hitherto assumed to occur over the first rib is not at that site but at the point where the vein passes over the subscapularis muscle in the position of hyperabduction and external rotation. This was established also by the dissection of fresh autopsy material.

In studies in fresh autopsy material of the stretching of the vein which according to several theories is the responsible factor in thrombosis of the axillary vein the authors found that the only part of the vein that was stretched was the portion just proximal to the head of the humerus and just proximal also to the point at which the roentgen studies revealed constriction. They investigated also the effect produced on the rate of the blood flow and the venous pressure by the constriction and stretching observed in the axillary vein in the position of hyperabduction and external rotation. Studies of the venous pressure indicated that the important factor in raising this pressure is not the position of the arm, but rather the increased thoracic pressure caused by coughing or straining.

The authors conclude that the final cause of the accident is some individual variation. The results of their studies contradict the results of some of the previous work that has been done, but do not solve the problem. The anatomical and physiological factors demonstrated are merely contributing causes. Until a sufficient number of autopsy studies have been made in cases of thrombosis of the axillary vein the cause of the condition must remain speculative. HERBERT F. THURSTON, M.D.

Baumgartner, J. A Contribution on Arterial Obliterations. The Importance of Arteriography in Surgical Diagnosis and Treatment (Beitrag zur Kenntnis arterieller Obliterationen. Ueber die Bedeutung der Arteriographie in der chirurgischen Diagnostik und Therapie). *Deutsche Ztschr. f. Chir.*, 1935, 244-339.

The author made arteriographic studies of the arterial circulation in twenty-one limbs of twelve patients. The technique of Dos Santos—percutaneous puncture of the larger arteries and the injection of thorotrast—was used. The technique is not described further.

Arteriography permits a topical diagnosis of arterial obstruction and therefore surgery to relieve the condition. The conditions in the cases reviewed

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Gudin. Operative Infection and Total Sterilization
(Infection operative et stérilisation totale) Bull
et mém Soc nat de chir 1935 61 994

The author maintains that the ordinary operation is never performed under strictly aseptic conditions because the air is contaminated. The operative wound always heals with inflammation evidenced by its redness and the fact that the body will not tolerate foreign material. The inability of the body to tolerate foreign material is due to infection. Because of it, tight sutures must be employed and the use of nails, plates and other foreign materials in bone surgery is followed by very poor results.

To correct this state of affairs Gudín disinfects the air of the operating room with formaldehyde. The apparatus he uses and the plan of the operating room are shown in illustrations. The air is sterilized by blowing formaldehyde through it with ventilators. The formaldehyde is then neutralized with ammonia in a gaseous state and the product of this combination (urotropin) is removed with a solution of tartaric acid in sterilized water in which the urotropin dissolves and the ammonia is transformed into a soluble tartrate. In this way the air is sterilized and restored to its former chemical composition so that it can be breathed. The room is kept at the temperature and humidity which are best for comfort and the prevention of perspiration. Linen instruments and gloves are also sterilized by the described chemical method instead of by the ordinary autoclave method. Jointed instruments are first boiled in a solution of sodium carbonate. Both surgeon and patient pass through two preferably three air tight sterilized compartments before reaching the operating room. Spectators are permitted to observe operations from a second floor through a glass floor. A vertical mirror panel gives them a view of operations in the perineal position. Instruments, drapes and gloves are arranged on racks beside the operating table, one assistant being there for assistance. The surgeon and assistant wear forehead lights which give the best possible lighting of the field of operation. Gudín claims that, as compared with the usual methods, this procedure has resulted in a saving of about 60 per cent in operating material and has reduced the time of hospitalization of patients by about 40 per cent.

In the discussion of the report CHEVASSU said that sterilization of the air of operating rooms is without doubt of great importance but he did not have great confidence in the use of formaldehyde for that purpose. He tried it during the war employing formal obtained by the evaporation of tri-

oxymethylene and was very well satisfied with the results until the death from tetanus of an officer on whom he operated for strangulated hernia with instruments he had used for the wounded. He then made scientific tests and found that sterilization with formal is only a partial sterilization.

CHEVASSU replied that the failure of Chevassu's attempt at sterilization was probably due to failure to carry the procedure out in the right way in air tight rooms and with measured amounts of formaldehyde. He finds that Petri dishes exposed in his operating rooms remain absolutely sterile where as when they are exposed in ordinary operating rooms they develop colonies of bacteria.

ARDEY GOSS MORGAN M.D.

Burlin F. Plastic Surgery of the Hand (Handplastiken) Ka Kl Chir u Gynaek C Chir 1934
13 252

Plastic surgery has a very wide field of application in the treatment of hand and finger injuries as well as the deformities resulting from infection. In recent injuries a plastic operation is seldom possible because it is at first difficult to decide what tissue can be preserved and as a rule the wound is greatly contaminated. In clean wounds free skin grafts can often be used with success. It is always necessary to take into consideration the occupation of the injured person. Especially important is preservation of the thumb and index finger. In cases of comparatively clean wounds coming for treatment within the first six hours it is possible after removal of the destroyed tissue to do free skin grafting if the injury is superficial. Otherwise a tubed or pedicled graft from a distant part must be used. In cases of gross destruction or contamination primary plastic repair is not suitable. Before a plastic operation is attempted the wound must be brought to the granulation stage by irrigation with Dakin's solution. This may require from ten to fourteen days but in the interval a tubed flap may be prepared on the abdominal wall. As a rule the injured person does not come to the plastic surgeon until extensive scar contractures have formed. The problem is then difficult to solve.

For simple scar contractions Burlin recommends the Morestin plastic procedure. He discusses also plastic operations for extensive scarring after burns. He describes in detail the different methods for reconstruction of the thumb and phalangization of a metacarpal replacement with another finger or metacarpal and the two methods of Nikoladon: the construction of a thumb with a skin flap and the implantation of a bone graft and replacement of the thumb with a toe. His conclusions are summarized as follows:

The treatment of injuries to the hand and fingers, whether they are due to injury or infection, is still often carried out so carelessly or poorly that very often lasting damage results which could have been prevented by the correct procedure. This is true even in simple cases in which healing can occur without any disturbance of function. In difficult and complicated cases in which healing cannot occur without a certain amount of incapacity, treatment is often given without consideration of the functional ability of the preserved parts. No care is taken to see that the preserved fingers and hand heal in a position which allows the use of the hand at least for grasping. Treatment by plastic surgery is nearly always sought too late for good results whereas if given in the granulating stage of the wound it will hasten recovery and decrease the disability. In serious hand injuries there often remains nothing to be done by plastic surgery except reconstruction of the hand as a grasping organ.

The author reports a series of cases in which he obtained good results by a plastic operation.

(HAIM) (V BURRELL) THOMAS W STEVENSON, M D

Ranzl, E, and Huber, P.: Postoperative Thrombosis and Embolism (Postoperative Thrombose und Embolie) *Wien klin Wchnschr*, 1935, 1: 289.

The authors reviewed 47,120 operations performed at the Vienna Clinic in a period of thirty-three years and 12,222 operations performed at the Innsbruck Clinic in recent years to ascertain whether there has been an increase in the incidence of thrombosis and embolism. In many publications an increase has been reported. However, this increase is not limited to the particularly interesting postoperative cases but is reported also by internists (Morawitz) and is to be seen in pathologico-anatomical statistics. On the other hand, a considerably smaller number of investigators (among them Freund and Geissendorfer) have noted no increase. If the statistics of the Vienna Clinic and the Innsbruck Clinic are compared, there appears to have been an increase. The first statistics, compiled in 1908, showed that in 6,871 operations the incidence of thrombosis was 1.2 per cent and the mortality from embolism 0.33 per cent. The statistics for the period from 1900 to 1924, inclusive, showed that in 18,883 operations, the incidence of thrombosis was only 0.6 per cent and the mortality from embolism 0.1 per cent. The latest statistics, covering the period from 1925 to 1934, inclusive, showed that in 21,366 operations, the incidence of thrombosis increased to 1.0 per cent and the mortality from embolism to 0.36 per cent. The important question is 'To what is the increase due?' The curve based on the authors' statistics has a wave-like form showing that the incidence of thrombosis and embolism increased in the years 1907, 1914, 1920, and 1930, decreased considerably during the war and in 1919, increased more or less constantly in the period from 1920 to 1930, and then began to decrease again.

Another important question is whether the number of deaths from pulmonary embolism runs parallel with the number of thromboses. Nuernberger answered this question in the affirmative. In his opinion, therefore, the increase in deaths from embolism is referable to a similar increase in the incidence of thromboses. This is in agreement with the frequently expressed belief that the increase in the incidence of pulmonary embolism is due to a greater tendency of the clot to become detached. The authors' material also supports Nuernberger's theory. Lubarsch found the frequency of pulmonary embolism in thrombosis, the so-called mobilization tendency, to be 59.1 per cent. In the material of the Vienna Clinic this frequency was 57 per cent, and in that of the Innsbruck Clinic 54 per cent. These figures include all embolic insults, whether they were fatal or not. Of the 86 fatal (postoperative and post-traumatic) cases of embolism, the embolism had its origin in a thrombosis of the operative or fracture region in 14 (16 per cent) and in a distant thrombosis in 60 (73 per cent). In 10 (11 per cent), the site of its origin was not discovered. Therefore, by far the greater number of fatal emboli arose from a distant thrombosis. In the great majority of the cases the thrombosis occurred in the veins of the lower extremities or pelvis, and in only a few cases in the right heart, the inferior vena cava, or a renal vein.

While some postoperative thromboses and embolisms are caused, without doubt, by the operation itself, many postoperative thromboses are attributable to the disease and the condition of the patient, and it is certain that embolisms occurring immediately after operation must be blamed on a thrombosis which was present before the operation.

Embolism occurs most frequently, immediately after and about eight days after operation. There are a number of factors which favor thrombosis and thereby may contribute also to the occurrence of emboli. One of them is malignant tumor, and another is infection. The question arises whether infection is a factor also in distant thromboses. While it appears necessary to assume that mild infection is present in all cases of thrombosis, in some cases the influence of infection appears so evident that it must be taken into consideration. In this connection the authors call attention particularly to the difference in the frequency of thrombosis in the acute and the interval stages of appendicitis. In the Vienna material, operation in the acute stage was complicated by thrombosis 5 times and in the Innsbruck material 20 times as often as operation in the interval. In none of the cases at either the Vienna or the Innsbruck Clinic was an interval operation followed by fatal embolism.

Cardiovascular changes may also favor thrombosis. Such changes were found at autopsy in 50 of 80 cases of fatal embolism following operation in the period from 1924 to 1934. Before operation it is very important to make a careful estimate of the condition of the heart and, when necessary, to pre-

included scleroderma and arteritis. In these conditions the narrowing of the arteries was so marked as to reduce the lumen to thread like proportions. The treatment consisted of resection of the right stellate ganglion. In *Ruergers disease* similar narrowing of the lumen was observed. In arteritis of the foot caused by freezing the arteries of the foot appeared closed. When the arteries were surgically exposed and freed from the scar like connective tissue surrounding them demarcation of the necrotic tissue occurred. Other conditions in the cases reviewed were aneurism of the popliteal artery, arteriosclerosis, arteritis with obstruction at various level and infectious arteritis associated with diabetes.

The author is of the opinion that all trophic disturbances have their origin in an active process leading to arterial obliteration or that the process itself is located in the peripheral vessels of the toes. Obstruction of the large vascular trunks is manifested chiefly by intermittent claudication and cyanotic and hypothermic manifestations which are favorably influenced by sympathectomy.

On the basis of his studies Baumgartner concludes that the indication for operation may be determined from the roentgen findings except in conditions for which sympathectomy may be advisable. In revascularizing the site of an arterial obliteration and the development of collateral circulation arteriography is of great value for anatomical diagnosis.

(VOELLER) JACOB E. KLEIN, M.D.

BLOOD TRANSFUSION

Hesse E. Mistakes Dangers and Unforeseen Complications of Blood Transfusion as Revealed by a Study of 1300 Cases. (Lehler Gefahren und unvorhergesehene Komplikationen bei der Bluttransfusion im Lichte einer eigenen Erlebung von 1300 Fällen.) *Ergebn d. Chir.* 1934 27 106

Among the mistakes made in determining the group specific properties of the blood the author differentiates between those made because of faulty organization, those due to improper preparation and preservation of the standard sera, those due to incorrect evaluation of the findings made in the determination of the blood groups, and those arising from variations in the agglutinating ability of the erythrocytes and the agglutinin content of the serum. He contrasts pseudo-agglutination with panagglutination and discusses defective blood groupings.

The mistakes in the technique of blood transfusion are considered in detail. Gross mistakes such as ligation of the ulnar artery and perforation of the posterior wall of the vein, mistakes to which Oehlcker has already called attention are discussed. In addition, the dangers of air embolism and of the too rapid introduction of large quantities of blood are mentioned. Certain methods of blood transfusion lead to special mistakes and danger. The transfusion of fresh citrated blood is not so dangerous as is generally believed. In the cases of

small children the citrate method is almost always used. The transfusion is done preferably into the sagittal sinus. Intraperitoneal infusions of blood have great disadvantages.

In the transfusion of preserved blood special precautions must be taken. The preserved blood must not come into contact with the hands of the operator nor with the air of the room. The use of hemolyzed blood is a gross error. The overheating of preserved blood is very dangerous. Disintegration of the blood proteins and the destruction of albumins also have an unfavorable effect.

In the transfusion of cadaver blood, the greatest danger lies in the use of non sterile and already hemolyzed blood. Therefore the blood should not be withdrawn later than from six to eight hours after death.

In the direct method of transfusion, technical errors are less frequent. Among the important dangers and unforeseen complications which threaten the recipient are non specific protein reactions, hemolytic shock, anaphylactic shock, and the transference of disease. The non specific protein reactions are closely allied to allergy. Most important of all the complications arising in association with blood transfusion is hemolysis. Four types of hemolytic shock are distinguished: the acute form with chiefly cardiovascular symptoms, the acute form in which the dominant symptoms are renal and there are no noteworthy cardiovascular disturbances, the acute form, with predominance of slight transitory disturbances of a subjective character, and the late form in which there is no indication of hemolysis during or immediately after the blood transfusion. According to the experimental and clinical observations of Hesse and Filstov the only effective therapeutic procedure in hemolytic shock is the immediate transfusion of compatible blood. The author discusses the possibility of anaphylactic shock after blood transfusion which he states is an extremely complicated problem.

The transference by transfusion of measles, small pox, typhus, tuberculosis and filariasis has been reported. The author discusses especially the transference of syphilis. He takes up also the transference of malaria and non infectious diseases.

Complications in the various organs of the recipient after blood transfusion such as thrombosis of the cerebral vessels, acute aneurysms and acute hemorrhagic nephritis are rare.

Contra indications to blood transfusion are all disease processes in which there is congestion in the pulmonary circuit, organic diseases and valvular defects of the heart associated with signs of decompensation, diseases associated with insufficiency of the liver and the rest of the reticulo-endothelial system, kidney diseases associated with anuria, diseases associated with thrombosis of the arteries and veins and fat embolism. Other contra indications are the leukemias and diseases in which blood transfusion will activate the disease process such as pulmonary tuberculosis.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE, POSTOPERATIVE TREATMENT

Gudin. *Operative Infection and Total Sterilization*
(Infection opératoire et stérilisation totale) *Bull*
et mém Soc nat de chir 1935, 61, 994

The author maintains that the ordinary operation is never performed under strictly aseptic conditions because the air is contaminated. The operative wound always heals with inflammation, evidenced by its redness and the fact that the body will not tolerate foreign material. The inability of the body to tolerate foreign material is due to infection. Because of it catgut sutures must be employed and the use of nail plates and other foreign materials in bone surgery is followed by very poor results.

To correct this state of affairs Gudin disinfects the air of the operating room with formaldehyde. The apparatus he uses and the plan of the operating room are shown in illustrations. The air is sterilized by blowing formaldehyde through it with ventilators. The formaldehyde is then neutralized with ammonia in a gaseous state and the product of this combination (urotropin) is removed with a solution of tartaric acid in sterilized water in which the urotropin dissolves and the ammonia is transformed into a soluble tartrate. In this way the air is sterilized and restored to its former chemical composition so that it can be breathed. The room is kept at the temperature and humidity which are best for comfort and the prevention of perspiration. Linen instruments and gloves are also sterilized by the described chemical method instead of by the ordinary autoclave method. Jointed instruments are first boiled in a solution of sodium carbonate. Both surgeon and patient pass through two preferably three air tight sterilized compartments before reaching the operating room. Spectators are permitted to observe operations from a second floor through a glass floor. A vertical mirror panel gives them a view of operations in the perineal position. Instruments, dressings and gloves are arranged on racks beside the operating table, one assistant being there for sufficient. The surgeon and assistant wear face head lights which give the best possible lighting of the field of operation. Gudin claims that as compared with the usual methods this procedure has resulted in a saving of about 60 per cent in operating material and has reduced the time of hospitalization of patients by about 40 per cent.

In the discussion of the report CHEVASSU said that sterilization of the air of operating rooms is without doubt of great importance but he did not have great confidence in the use of formaldehyde for that purpose. He tried it during the war employing formal obtained by the evaporation of tri

oxymethylene and was very well satisfied with the results until the death from tetanus of an officer on whom he operated for strangulated hernia with instruments he had used for the wounded. He then made scientific tests and found that sterilization with formal is only a partial sterilization.

GUDIN replied that the failure of Chevassu's attempt at sterilization was probably due to failure to carry the procedure out in the right way in air tight rooms and with measured amounts of formaldehyde. He finds that Petri dishes exposed in his operating rooms remain absolutely sterile whereas when they are exposed in ordinary operating rooms they develop colonies of bacteria.

ALFRED GOSSE MORGAN, M.D.

Burian F. *Plastic Surgery of the Hand* (Handplastiken) *Ro M Chir a Gynæk C Chir* 1934, 23, 52

Plastic surgery has a very wide field of application in the treatment of hand and finger injuries as well as the deformities resulting from infection. In recent years a plastic operation is seldom possible because it is at first difficult to decide what tissue can be preserved and as a rule the wound is greatly contaminated. In clean wounds free skin grafts can often be used with success. It is always necessary to take into consideration the occupation of the injured person. Especially important is preservation of the thumb and index finger. In cases of comparatively clean wounds coming for treatment within the first six hours it is possible after removal of the destroyed tissue to do free skin grafting if the injury is superficial. Otherwise a tubed or pedicled graft from a distant part must be used. In cases of gross destruction or contamination primary plastic repair is not suitable. Before a plastic operation is attempted the wound must be brought to the granulation stage by irrigation with Dakin's solution. This may require from ten to fourteen days but in the interval a tubed flap may be prepared on the abdominal wall. As a rule the injured person does not come to the plastic surgeon until extensive scar contractions have formed. The problem is then difficult to solve.

For simple scar contractions Burian recommends the Moreskin plastic procedure. He discusses also plastic operations for extensive scarring after burns. He describes in detail the different methods for reconstruction of the thumb and phalangization of a metacarpal replacement with another finger or metacarpal and the two methods of Nikoladoni: the construction of a thumb with a skin flap and the implantation of a bone graft and replacement of the thumb with a toe. His conclusions are summarized as follows:

The treatment of injuries to the hand and fingers, whether they are due to injury or infection, is still often carried out so carelessly or poorly that very often lasting damage results which could have been prevented by the correct procedure. This is true even in simple cases in which healing can occur without any disturbance of function. In difficult and complicated cases in which healing cannot occur without a certain amount of incapacity, treatment is often given without consideration of the functional ability of the preserved parts. No care is taken to see that the preserved fingers and hand heal in a position which allows the use of the hand at least for grasping. Treatment by plastic surgery is nearly always sought too late for good results whereas if given in the granulating stage of the wound it will hasten recovery and decrease the disability. In serious hand injuries there often remains nothing to be done by plastic surgery except reconstruction of the hand as a grasping organ.

The author reports a series of cases in which he obtained good results by a plastic operation.

(HAIM) (V BURRELL). THOMAS W. STEVENSON, M.D.

Ranzl, E., and Huber, P. Postoperative Thrombosis and Embolism (Postoperative Thrombose und Embolie). *Wien klin Wchschr*, 1935, 1: 289.

The authors reviewed 47,120 operations performed at the Vienna Clinic in a period of thirty-three years and 12,222 operations performed at the Innsbruck Clinic in recent years to ascertain whether there has been an increase in the incidence of thrombosis and embolism. In many publications an increase has been reported. However, this increase is not limited to the particularly interesting postoperative cases but is reported also by internists (Morawitz) and is to be seen in pathologico-anatomical statistics. On the other hand, a considerably smaller number of investigators (among them Freund and Geissendorfer) have noted no increase. If the statistics of the Vienna Clinic and the Innsbruck Clinic are compared, there appears to have been an increase. The first statistics, compiled in 1908, showed that in 6,871 operations the incidence of thrombosis was 1.2 per cent and the mortality from embolism 0.33 per cent. The statistics for the period from 1909 to 1924, inclusive, showed that in 18,883 operations, the incidence of thrombosis was only 0.6 per cent and the mortality from embolism 0.1 per cent. The latest statistics, covering the period from 1925 to 1934, inclusive, showed that in 21,366 operations, the incidence of thrombosis increased to 1.9 per cent and the mortality from embolism to 0.36 per cent. The important question is: To what is the increase due?

The curve based on the authors' statistics has a wave-like form showing that the incidence of thrombosis and embolism increased in the years 1907, 1914, 1920, and 1930, decreased considerably during the war and in 1919, increased more or less constantly in the period from 1920 to 1930, and then began to decrease again.

Another important question is whether the number of deaths from pulmonary embolism runs parallel with the number of thromboses. Nuernberger answered this question in the affirmative. In his opinion, therefore, the increase in deaths from embolism is referable to a similar increase in the incidence of thromboses. This is in agreement with the frequently expressed belief that the increase in the incidence of pulmonary embolism is due to a greater tendency of the clot to become detached. The authors' material also supports Nuernberger's theory. Lubarsch found the frequency of pulmonary embolism in thrombosis, the so-called mobilization tendency, to be 59.1 per cent. In the material of the Vienna Clinic this frequency was 57 per cent, and in that of the Innsbruck Clinic 54 per cent. These figures include all embolic insults, whether they were fatal or not. Of the 86 fatal (postoperative and post-traumatic) cases of embolism, the embolism had its origin in a thrombosis of the operative or fracture region in 14 (16 per cent) and in a distant thrombosis in 60 (73 per cent). In 10 (11 per cent), the site of its origin was not discovered. Therefore, by far the greater number of fatal emboli arose from a distant thrombosis. In the great majority of the cases the thrombosis occurred in the veins of the lower extremities or pelvis, and in only a few cases in the right heart, the inferior vena cava, or a renal vein.

While some postoperative thromboses and embolisms are caused, without doubt, by the operation itself, many postoperative thromboses are attributable to the disease and the condition of the patient, and it is certain that embolisms occurring immediately after operation must be blamed on a thrombosis which was present before the operation.

Embolism occurs most frequently, immediately after and about eight days after operation. There are a number of factors which favor thrombosis and thereby may contribute also to the occurrence of emboli. One of them is malignant tumor, and another is infection. The question arises whether infection is a factor also in distant thromboses. While it appears necessary to assume that mild infection is present in all cases of thrombosis, in some cases the influence of infection appears so evident that it must be taken into consideration. In this connection the authors call attention particularly to the difference in the frequency of thrombosis in the acute and the interval stages of appendicitis. In the Vienna material, operation in the acute stage was complicated by thrombosis 5 times and in the Innsbruck material 20 times as often as operation in the interval. In none of the cases at either the Vienna or the Innsbruck Clinic was an interval operation followed by fatal embolism.

Cardiovascular changes may also favor thrombosis. Such changes were found at autopsy in 59 of 80 cases of fatal embolism following operation in the period from 1924 to 1934. Before operation it is very important to make a careful estimate of the condition of the heart and, when necessary, to pre-

pare the heart to withstand the demands of operation

The statistics of both clinics show that the incidence of thrombosis and embolism was high after laparotomy. In the total laparotomy material of the Vienna clinic the incidence of thrombosis was 2.9 per cent and that of emboli 0.54 per cent. The incidence was particularly high after laparotomies performed for malignant tumors that of thrombosis being 5.5 per cent and that of fatal embolism 1.5 per cent. The average incidence of thrombosis for the same period was 1.9 per cent and that of embolism 0.36 per cent. The Innsbruck material shows similarly high figures. The high incidence of thromboses and emboli after radical operations for carcinoma of the breast is striking. In Vienna the incidence of thrombosis after such operations was 4.2 per cent and that of embolism 0.9 per cent, while in Innsbruck the incidence of thrombosis was 5.0 per cent and that of embolism 1.0 per cent. As patients treated for breast carcinoma always get up the day after operation these figures considerably weaken the argument for getting the patient up early after operation. After gutter operations the incidence of thrombosis was 0.5 per cent in the Vienna Clinic and 0.3 per cent in the Innsbruck Clinic. No cases of embolism were seen. In uterine patients thrombosis occurred repeatedly, which was in agreement with the experience of Nordmann and in disagreement with the experience of Hutter and Urban. No influence of the type anesthesia was noted.

Age is another factor in the occurrence of thrombosis and embolism. In the fifth decade there was a sudden increase in the incidence of thrombosis and in the sixth decade the peak for both thrombosis and fatal embolism was reached. The statistics show no fatal emboli in the first two decades only 1 or 2 cases in the third and fourth decades and only a small number of thromboses in severe septic processes.

A review of the autopsy material with regard to the influence of the weather on the incidence of thrombosis and embolism failed to reveal an influence insofar as fatal insults were concerned.

Of the 80 patients who died of postoperative embolism in the years from 1924 to 1934, 34 were obese.

With regard to the question as whether there has been an increase in the incidence of thrombosis and embolism concomitant with the constant increase in intravenous injections in recent years, the authors state that they were unable to find in their statistics any evidence of an influence of the latter factor on the frequency of thrombosis and embolism.

The prophylaxis of embolism is closely bound up with that of thrombosis. According to Keha, it requires careful determination of the indications for operation, the condition of the circulatory organs, signs of predisposition to thrombosis and embolism and the state of nutrition and constitution of the patient. In the opinion of Benecke, Atanasoff and Schmitzler, women are particularly liable to throm-

bosis at the time of the menstrual periods. Patients with varices are also exposed to the danger of thrombosis and embolism. Their extremities should therefore be bandaged. According to Walters of the Mayo Clinic thyroid preparations particularly thyroxin are to be recommended (Fruend). Others—among them Urban and Kaufmann—have been unable to confirm the value of thyroxin. With regard to the value and dangers of venesection opinions differ. The prophylactic use of leeches has little effect in diminishing the coagulability of the blood (Sulger and Bossin). Before operation there should be no exaggerated purgation and immediately after the operation fluids should be given in large quantities by rectal drip. Observations with regard to the value of treatment with liver preparations or with sympatol and carbon dioxide (W. Hoenig) are too few for judgment. The prophylaxis suggested by Martin (injection of calcium chloride solution) does not appear to be certain. An important prophylactic measure against thrombosis is the avoidance of absolute rest in bed after operation. On the basis of a large experience Kuemmel has recently recommended getting the patient up early and the post-operative administration of large quantities of fluid as particularly effective in reducing the incidence of thrombosis and embolism. A foot roll should be used for massage of the veins of the feet (Fayr).

Pain in the sole of the foot is the first symptom of a beginning thrombosis in the rete venosum. If thrombosis has become manifested the thrombosed extremity should be put at rest in moderate elevation. According to Fayr and Foehn aluminum acetate alcohol compresses cold and hot applications and hot air are to be recommended. The application of leeches is of value in some cases. According to Sulger it relieves pain causes relaxation and shortens the duration of the illness. With regard to the value of the compression bandages recently recommended not only for the treatment of varices but also for patients with thrombosis when they are allowed to get up the authors have as yet been unable to draw conclusions particularly because the occurrence of embolism when such bandages were worn has been reported in the literature (Atanasoff). Ligation in septic thrombosis to prevent spread of the infection is an accredited measure (Mueller, Laeven and Clairmont). In non infected thrombosis ligation for the prevention of embolism (Rosenstein and Martens) is to be considered especially when single attacks of embolism have occurred (in the femoral vein, the iliac vein and even the vena cava). Embolectomy for embolism of the pulmonary artery must be reserved for the most severe cases. The difficulty lies not in the technique but in the determination of the indications and the time for the operation. If the operation is performed as a last resort success can hardly be expected whereas if it is done early the object is that the patient would perhaps have recovered without it can always be made. Every experienced surgeon has had cases of the latter type.

Diagnosis may err in either of two directions. An embolism may be mistaken for cardiac insufficiency, or cardiac insufficiency may be mistaken for embolism. In the material of the Vienna Clinic for the last eleven years, 55 of 80 fatal postoperative emboli were diagnosed correctly. The diagnosis was supported by an existing thrombosis. The authors review 7 Trendelenburg operations, 5 performed in Vienna and 2 in Innsbruck. None was successful. In another case the Trendelenburg operation was performed under the false diagnosis of pulmonary embolism and autopsy showed that the patient had been suffering from cardiac insufficiency. However, the diagnostic difficulties mentioned do not warrant too great hesitancy in the performance of the Trendelenburg operation.

(LOEHP) FLORENCE ANNAN CARPENTIER

ANTISEPTIC SURGERY; TREATMENT OF WOUNDS AND INFECTIONS

Gubern-Salisachs, L.: The Present Status of the Treatment of Severe Burns (Estado actual del tratamiento de las quemaduras graves). *Rev de ciruj de Barcelona*, 1935, 5 325

In cases of severe burns it is necessary not only to treat the shock but also to prevent the development of toxemia from the toxic substances formed from the burned tissues. The general condition is affected unfavorably also by the lack of skin function in the affected region. Therefore the aim of treatment should be to fix the toxic substances formed and at the same time supply some of the functions of the skin lacking in the burned region. As tannic acid meets both of these requirements and as it is antiseptic and easy to apply, the author regards its use as the treatment of choice for extensive burns.

AUDREY GOSS MORGAN, M D

Bazy, L.: The Prevention of Tetanus. Active Immunization by Vaccination or Passive Immunization by the Use of Serum? (Documents pour servir à la prévention du tétanos. Immunisation active par le vaccin ou immunisation passive par le sérum?) *Bull et mèn. Soc nat de chir*, 1935, 61 714

The advantages of active immunization against tetanus as compared with passive immunization are presented. Statistics show that tetanus occurs most frequently as the result of minor injuries for which no prophylactic serum is given. Numerous also are cases of tetanus of endogenous origin. In about three-fourths of the cases there is no means of foreseeing the development of the disease. Moreover, in view of the widespread use of the serum, the limits of prophylaxis seem to be reached. The Pasteur Institute of Paris alone supplies 688,830 ampoules per year.

In France there is a veritable "tetanophobia" and repeated injections of serum to the same individual are common. In one instance a child received a dose every time he fell from a bicycle, a total of fifteen.

This extensive use of serum is associated with danger. The sensitization of large numbers of individuals to horse serum is undesirable both because it is dangerous in itself and because it may interfere with the treatment of diphtheria or other disease requiring serum. Equally important is the loss of efficacy of the antitetanic serum due to the formation of antibodies, a serious matter for the individual as well as for the population as a whole in the event of an emergency.

In reply to the economic objections to widespread active immunization, Bazy says that the annual cost of serum, which offers only temporary immunity, is 6,500,000 francs, and for this sum 650,000 individuals could be protected against tetanus permanently.

In discussing this report, FREDET called attention to the fact that the development of tetanus is limited almost entirely to individuals whose occupations expose them to the infection. Among railroad employes, for example, the disease occurs practically only in track workers. Hence he would limit vaccination to these special groups.

MOURE expressed the opinion that, in view of the rarity of tetanus in peace times, generalized vaccination is not justified. He believes, however, that in time of war there would be every advantage in vaccinating the army. ALBERT F. DEGRAT, M D.

ANESTHESIA

Bezza, P.: The Secretion of Mucus in the Trachea and Bronchi in Relation to Ether and Chloroform Anesthesia (La secrezione del muco nella trachea e nei bronchi in rapporto alla anestesia eterea e cloroformica). *Arch ital di chir*, 1935, 40 113

Bezza reports experiments he carried out to determine the rôle of the mucus-secreting glands of the trachea and bronchi in the development of post-operative pulmonary complications. He studied several groups of animals anesthetized with ether or chloroform. The depth and duration of the anesthesia were varied in order to determine their influence on mucus production. At the termination of the experiment the animals were sacrificed for examination of the bronchial tree and lungs.

After deep ether anesthesia lasting for from ten to twenty minutes there was practically no change in mucus production. Even when the anesthesia lasted one or two hours the changes were slight, only a few cells being active in the secretion of mucus. After light ether anesthesia lasting for two or three hours all of the mucous cellular elements became rich in secretion granules, the lumina of the bronchi contained abundant secretion, the tracheobronchial tree showed hyperemia, and there was an apparent ecstasia of the blood vessels of the submucosa.

The animals subjected to chloroform anesthesia showed changes similar to those occurring in the animals anesthetized with ether.

Changes in mucus secretion were found also after repeated deep anesthesia induced with ether but

not after repeated deep anesthesia induced with chloroform

The findings indicate that hypersecretion of mucus is related to hyperemia. Apparently, under the influence of light anesthesia vasodilatation and hypersecretion are reflex activities. The conditions which allow this reflex are abolished by profound anesthesia. The author concludes that in the induction of inhalation anesthesia with ether or chloroform the state of profound anesthesia should be reached as soon as possible and maintained.

A. LOUIS ROSI, M.D.

Merlino A. The Blood Sugar Level in Relation to the Action of Paunevrol and of Ether Anesthesia (Il comportamento della concentrazione glicemica in rapporto all'azione del paunevrol e della narcosi eterea). *Arch. di ostet. e ginec.*, 1935, 47, 307.

The author discusses briefly the factors which regulate the blood sugar under physiological conditions and reviews the literature on the effect of morphine and ether on the concentration of sugar in the blood.

It is generally agreed that morphine causes a hyperglycemia, but as the problem has been studied only in its clinical aspects and has never been attacked experimentally the mechanism of this action has not been satisfactorily elucidated.

The hyperglycemia following ether and chloroform anesthesia has been attributed to (1) stimulation of the sympathetic system of the adrenal medulla (2) acidosis (3) hypoinsulinism and (4)

glycogenolysis resulting from a direct action of the ether on the hepatic cells.

Merlino selected for his studies women in good nutritional condition with a normal carbohydrate metabolism who were suffering from common gynecological disorders. Only a few had been subjected to laparotomy.

He found that one hour after the injection of paunevrol (morphine scopalamine) the blood sugar concentration was usually increased. In several cases, however, it was decreased and in others showed little change.

He is of the opinion that the diencephalic centers play an important rôle in the complex neurochemical hormonal mechanism regulating the blood sugar level by influencing the liver, pancreas and suprarenal glands.

He believes that the hyperglycemia is not the result of a toxic action of morphine on the liver cells as some investigators claim but is due to a hyperglycogenolysis resulting from direct stimulation of the liver cells or of the suprarenal glands.

He attributes the hypoglycemia found in several of his cases to an overproduction of insulin caused by the preceding hyperglycemic phase.

He believes that the hyperglycemia produced by ether anesthesia is due primarily to hepatic hyperglycogenolysis caused by direct stimulation of the liver cells, the secretion of epinephrin, or a temporary hypofunction of the pancreas, and that the acidosis mentioned by other investigators is a factor of considerable importance in postanesthetic hyperglycemia.

RICHARD F. SOMMER

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Gallavresi, L.: A Photomicrometric Study of Certain Lines Appearing in Roentgenograms (Ricerche microfotometriche nel campo di alcune immagini radiografiche lineari) *Radiol med*, 1935, 22 641

The author discusses the various theories that have been advanced to explain the certain stripes in roentgenograms from hyperillumination and hypoillumination. He then reports the results of his photomicrometric study of the line around the outline of the thorax bounding the lung fields, which is called "Correra's line," and the clear borders surrounding the roentgen images of gas bubbles in the intestines.

Correra's line appears when the lung fields are freed from superposition of the ribs by Palmieri's projection. It is due to two causes, the first physico-geometrical in nature and the second simply an optical illusion known as the "Mache effect." The physico-geometric factors, which the author discusses in detail, are active only at the base of the thorax where there are conditions relative to the form of the thorax which cause a line of hypo-illumination on the negative and therefore a stripe of greater transparency. In the upper part of the thorax, at the scapular girdle and the points where the pectoralis major and the latissimus dorsi muscles reach their greatest development, these physico-geometrical conditions are lacking and the lines are due to a Mache effect. Of course this effect may intensify the lines at the base also where the line is actually present. However, the line may appear simply as an optical illusion without any geometrical factor. This is confirmed by the transparent rings around the roentgen images of gas bubbles in the intestine, which in the great majority of cases are optical illusions.

AUDREY GOSS MORGAN, M D

Brunetti, L.: Indications and Projections for Teleroentgenograms in Craniology (Indicazioni e norme per l'assunzione di teleroelogrammi in craniologia) *Radiol med*, 1935, 22 673

The author discusses the use of teleroentgenography or hyperteleroentgenography in craniometry and describes his technique. The teleroentgenograms may be taken from four projections—lateral, basal (submentovertex incidence), facial following the plane from nasion to basion, and facial following the plane from porion to orbit. Illustrative diagrams are presented.

By the use of this method it is possible to examine skulls that cannot be sawed and also the skull of the living subject. There are many practical fields in which the method can be applied in anthropometry.

It is particularly valuable in studies of the base of the skull where a clear picture cannot be obtained by other methods. AUDREY GOSS MORGAN, M D.

Palmer, D L.: Observations on the Roentgen Pathology of the Ethmoid Labyrinth and Sphenoid Sinuses *Am J Roentgenol*, 1935, 34 181

The fact that roentgen evidence of disease of the ethmoid labyrinth and sphenoid sinus is not accepted with the same credence by the progressive rhinologist as roentgen evidence of disease of the maxillary antrum and the frontal sinus is probably due to lack of familiarity with special exposures which serve to portray the ethmoid labyrinth and the sphenoid sinus to the best advantage. The author used the technique described by Rhese in the study of 500 cases of ethmoid and sphenoid disease which subsequently came to operation and in which he was able to compare the roentgenological with the clinical and pathological findings. This study revealed that variations of structure are of equal importance to, if not of more importance than, variations in density. The roentgenological examination proved of value especially in cases in which the history and the findings of rhinological examination were inconclusive.

Palmer describes the Rhese technique and shows the findings to be obtained with it by roentgenograms and a schematic tracing. He discusses the principles of interpretation of the findings from both the roentgenological and the pathological aspect, and reports several illustrative cases in detail.

ADOLPH HARTUNG, M D.

Solomon, I., and Gibert, P.: Roentgen Therapy in Inflammatory Diseases (*La roentgenothérapie des affections inflammatoires*) *Presse méd*, Par., 1935, 43 1251.

Since 1927 the authors have been using roentgen therapy in the treatment of inflammatory conditions with remarkably good results. They have treated cases of furuncle, paranasal, tuberculous abscess of the axilla, acute inflammations of the mouth, pharynx, and sinuses, inflammations of the genital organs, anorectal inflammations, and nerve conditions such as sciatica. The simplest roentgen apparatus serves for the irradiation of such inflammations. The optimum dose is usually from 100 to 200 r. This means an exposure of from five to fifteen minutes, depending on the power of the apparatus. Early treatment is important. The only death in the authors' cases was that of a patient with a furuncle of the face who was in extremis when admitted to the hospital. To the objection that roentgen irradiation is too complicated a method for so simple a condition as inflammation, the authors reply that the technique is very simple and that furuncles which appear very

simple may bring about severe septicemia and even death if not treated in time

As bactericidal doses of roentgen irradiation are far beyond the therapeutic doses the effects of the treatment are evidently not due to direct action on the bacteria. It is probable that the irradiation produces local conditions which are unfavorable for the development of bacteria, such as local alkalosis, dilatation of the capillaries and increased lymph circulation.

ALFRED GOSS MORGAN M.D.

Arneson A. N. and Quimby E. H. The Distribution of Roentgen Radiation Within the Average Female Pelvis for Different Physical Factors of Irradiation. *Radiology* 1935 25 181

In the irradiation treatment of carcinoma of the uterine cervix radium applied to the cervix alone can be relied upon to control the disease directly in and about the primary lesion but is incapable of destroying the tumor more than 3 or perhaps 4 cm from the cervical canal. To deliver a lethal dose of irradiation to the outlying tumor bearing regions external irradiation with roentgen rays is usually given. The authors review some of the numerous methods by which this is done. Although numerous studies have been made of the distribution of roentgen rays within the pelvis, there is no record of a correlated study of the influence of varying specific factors on such distribution. Discrepancies in reported percentage values due largely to the difference in the size of the pelvis in different cases render comparative studies unsatisfactory.

With a view toward overcoming the difficulties for a practical comparison of methods of pelvic irradiation the author established a certain body contour as a standard and then studied the variations of irradiation within it as various factors were changed, one at a time. Skin fields which included

all of the tumor bearing regions and in which no necessary exposure of sensitive tissues could be avoided were selected.

According to the method described by Failla and Quimby to illustrate the distribution within and outside the geometrical beam depth-dose charts were prepared for fields measuring 15 by 20 and 25 by 20 cm. A mechanically rectified X-ray machine was used with a filter of 0.5 mm of copper and 2.5 mm of aluminum. Data were obtained for target phantom distances of 50 and 70 cm.

With the pelvis of standard size the distribution of irradiation was studied for a number of combinations of fields and distances such as might be practical in the average radiological department.

A study of the various charts illustrating the percentage distribution of irradiation in the pelvis for different methods of external irradiation revealed that certain procedures had definite advantages over others. The use of large single fields on the anterior and posterior surfaces of the pelvis delivered a greater dose to the bladder and rectal regions than to the cervix. Double small field half the size of the larger ones may be used to irradiate an equal area of skin to deliver the same depth dose and to spare the bladder and rectum from doses in excess of the dose reaching the cervix. The addition of lateral fields to any port arrangement increases the depth dose delivered at all points within the pelvis. The greatest improvement is in the parametral regions which at a distance of 6 cm from the midline receive more irradiation than the cervix.

In view of these facts it seems that a six port arrangement (two ports anterior, two posterior and one on each lateral surface) with a 70-cm target skin distance is the best of the methods investigated for the roentgen irradiation of cervical cancer.

ADOLPH HARTUNG M.D.

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Jura, V.: The Pre-Operative and Postoperative Lipoids of the Blood (*La crasi sanguigna pre- e post-operatoria*) *Clin chir*, 1935, 11 649

In the last few years increased attention has been paid to the biochemical composition of blood in relation to various pathological conditions. One of the most important substances which has been studied from this point of view is cholesterol.

Jura briefly discusses the biochemistry of this substance and its rôle in the animal economy. It has been proved that the cholesterol level in the blood changes in various pathological conditions and some of these changes have been considered specific for certain clinical conditions.

It has been demonstrated, for example, that the febrile stages of the acute infections are accompanied by a hypocholesteremia which persists throughout the entire course of the infection. As the latter declines, a post-infective hypercholesteremia develops.

In the anemias there is often a hypocholesteremia whereas in nephritis and arteriosclerosis the cholesterol level of the blood is increased. In diabetes, the degree of hypercholesteremia seems to depend upon the state of acidosis, particularly if the degree of acidosis is severe.

In acute peritonitis, as in other inflammatory conditions, hypocholesteremia has been demonstrated in clinical cases as well as experimentally. This is followed by hypercholesteremia which sets in during the period of convalescence.

In a previous article Jura reported the variations in the cholesterol level of the blood in patients with tumors of various types.

In this article he reports on the pre-operative and postoperative cholesterol content of the blood in cases of hernia, calculus of the biliary tract with or without obstructive jaundice, tumors of the pancreas, gastric and duodenal ulcers, and tumors of the large intestine. The determinations were made daily, on alternate days, or less frequently, depending upon the findings and the patient's general condition.

The author concludes that, in general, the cholesterol content of the blood will show little change after operation if it is normal before operation and the function of the organs concerned in the metabolism of cholesterol is good. This is true even in cases of obstructive jaundice if hepatic function is not reduced. In patients treated surgically for the latter condition it increases after operation as in all other patients with more or less slight postoperative manifestations of insufficiency of the liver.

RICHARD SOMMA

Vallery-Radot, Ledoux-Lebard, Hamburger, Hugo, and Calderon: Arteriography During the Course of Anaphylactic Shock in the Rabbit (*Arténiographie au cours du choc anaphylactique du lapin*) *Presse méd*, Par, 1935, 43: 1057

In previous studies of anaphylactic shock in the rabbit the authors observed a very marked constriction of the mesenteric arteries occurring simultaneously with the fall in the arterial blood pressure which, as has been shown by Arthus, is the principal sign of the shock.

In this article they report observations made on peripheral vessels with the use of the apparatus of Dos Santos which permits the injection of a contrast medium under constant pressure and definite knowledge at any moment of the amount of the substance that has been introduced. A colloidal solution of thorium dioxide was injected into the upper end of the femoral artery at a pressure of



Fig 1 Arteriogram before the occurrence of shock in a sensitized rabbit



Fig. 2. Arteriogram of the same rabbit during shock.

1,500 gm. Adequate visualization of the aorta and the femoral vessel of the opposite side was obtained with 1 c.c. of the solution an amount easily tolerated by the rabbit with no apparent change in the blood pressure.

Nine rabbits were sensitized to horse serum by the subcutaneous injection of 5 c.c. of serum at three successive intervals of three days each. At the end of about twenty-one days a manometer was connected with the carotid artery, the opaque solution injected into the femoral artery through a cannula and a roentgenogram made. Two cubic centimeters of horse serum were then injected into the marginal ear vein and as soon as the maximum fall in the blood pressure indicating anaphylactic shock occurred another injection of 10 c.c. of thorium dioxide was made into the femoral artery and another roentgenogram was taken.

In eight of the nine rabbits a very marked constriction of the femoral artery and its branches was seen. In the case of the rabbit showing no such constriction there was no fall in the blood pressure and it is probable that for some reason this animal did not become sensitized to the horse serum.

In a study of the effect of successive injections of thorium dioxide alone on the size of the arteries no

constriction was observed. On the contrary, a slight increase in the diameter of the vessels was noted at the second injection.

NATHAN A. WOMACK, M.D.

Hicken, N. F. *Infectious Gangrene of the Skin Due to Bacterial Synergism with Particular Reference to Noma and Postoperative Cutaneous Gangrene*. *Arch. Surg.* 1915, 31, 153.

Two cases of acute infectious gangrene of the skin are reported. The first was that of a three-year-old negro boy who had acute myelogenous leukemia complicated by gangrenous ulcerative stomatitis (noma), streptococcal dermatitis and bilateral bronchopneumonia. Experimental studies proved that the noma was caused by synergism between anaerobic micro-aerophilic non-hemolytic streptococci, fusiform bacilli and the anaerobic staphylococcus aureus.

In the second case a sloughing gangrenous ulcer of the thoracic wall followed thoracotomy for streptococcal empyema. Bacteriological histopathological, and clinical findings indicated that the cutaneous gangrene was caused by synergism of the non-hemolytic streptococcus and staphylococcus aureus.

The treatment indicated is early radical excision of the diseased tissue. Plastic repair of the resulting deformities can be accomplished after the infection has completely subsided. SAMUEL F. ARDY, M.D.

Hohmeler, F. *Hospital Gangrene (Ho-pitalbrand)*. *Zentralbl. f. Chir.* 1935, p. 1002.

In 1932, Els and Jaeger reported a case of severe progressing skin necrosis which followed an operation performed on a girl eleven years old for sub-acute appendicitis in February, 1931. Since October, 1931, Hohmeler had been treating the gangrene in this case with the thermocautery, hebotherapy, calcium and potassium iodide but the condition progressed until it involved most of the skin of the abdomen. There was a huge wound surface covered by dirty granulations. From pockets formed beneath the bluish red undermined edges of the wound there flowed a large amount of non-odorous pus. The fascia and musculature were not involved. The pus contained a few hemolytic staphylococci but chiefly non-hemolytic streptococci. No diphtheria bacilli were found.

After lavage and blood transfusions had proved of no avail the suppuration and destruction of tissue were controlled by repeated radical excision of the diseased tissue as far as healthy tissue with the electric knife, opening up of the pus pockets and the application of dressings moistened in an antiseptic solution. Repeated attempts at transplantation and skin grafting were at first unsuccessful but after treatment with the Foer apparatus daily for several hours alternated with the application of warm and cold air the granulation surface became so improved that when further Thiersch transplants and Braun grafts were applied and covered with silver foil the growth of islands of epidermis began.

Extension of the transplants was accelerated by sprinkling the wound surface with granugenol (Knoll)

When presented at a meeting of the Central Rhein Surgical Society on October 27, 1934, the child was in good general condition and the wound completely covered with skin except for two small deep openings in the region of the right iliac crest. One of these openings has since closed

After the patient was discharged there was a recurrence of the erysipelas and an abscess formed in the left gluteal region following an injection. When the abscess was opened necrosis of the cellular tissues appeared but did not progress. The patient's general condition is still good

Hohmeier considers the condition an ulcerative form of the hospital gangrene described by Kuester, the virulence of which was diminished by treatment
(ZLLFR) JACOB E. KLIN, M D

Datnow, M.: An Investigation of the Value of Lead Compounds in the Treatment of Malignant Tumors. *Am J Cancer*, 1935, 24 531

After outlining the general method employed in finding therapeutically active and safe lead compounds for the treatment of malignant disease, the author describes in detail the preparation of twenty-seven organo-lead compounds, discusses the pharmacological tests of the preparations which were chemically satisfactory, and reports the results obtained by treating Brown-Pearce tumor-bearing rabbits with the pharmacologically satisfactory compounds
SAMUEL KAHN, M D

GENERAL BACTERIAL, PROTOZOAN, AND PARASITIC INFECTIONS

Lerer, E.: Pyogenic General Infection and Its Treatment (Die pyogene Allgemeinfektion und ihre Behandlung) 1935 Stuttgart, Enke

Lerer says that the term "pyogenic general infection" should be applied only to generalized diseases developing from a suppurative wound infection, a local primary or secondary suppurative inflammatory process, or a suppurative condition of a mucous surface when the pus-producing bacterium is not destroyed by the defensive forces of the organism and therefore spreads throughout the body. The micro-organisms concerned are pus-producers which are to be differentiated just as sharply from the bacteria causing putrefactive wound infection as from those causing specific infections such as tetanus, diphtheria, and actinomycosis. The most common pus-producing micro-organisms are the staphylococci and streptococci. Less common bacteria of this type are the gonococci, pneumococci, tetragenus cocci, and the pyocyanus and typhus bacilli

Cases of pyogenic general infection are divided by Lerer into those with and those without metastases. According to the manner of origin of the metastases, the former may be subdivided into those of the purely bacterial type and those of a thrombo-

embolic type. Of the cases of non-metastasizing pyogenic general infection or pyogenic blood infection those of the purely toxic type are to be distinguished from those of the bacterial type. Etiologically these conditions are to be distinguished also from general conditions resulting from putrefactive processes which Lexer designates as "putrid general infections"

Pyogenic infection of a wound or mucous membrane is followed by a local and a general defense reaction. The micro-organisms are quickly taken up by the blood stream, the majority being thereby destroyed and removed from the body. The resorption fever of infection is the clinical manifestation of wound resorption. The previously generally accepted theory that the invading organisms multiply in the circulating blood itself has been disputed by Schottmueller, but Lexer is of the opinion that multiplication of bacteria in the blood occurs in a certain sense, chiefly in the large reservoirs of blood where the blood circulates poorly or not at all. The primary focus of a general infection, the inflammatory focus of an external primary infection, may heal completely, but invasion of the blood stream is repeated from a second focus which may be formed from a metastasis at any site or from any point of lodgment of bacteria in the walls of the blood vessels or the endocardium. In all infections the development of a generalized infection from an infectious resorption fever depends on the relationship between the virulence of the invading micro-organism and the defensive forces of the body. The most serious sequelæ of pyogenic wound infection occur when an extremely virulent invader from a disease focus in the human body gains entrance to the healthy tissues of another person through a fresh wound sustained at operation or at autopsy on a fresh cadaver. The period of incubation is very short. Such extremely severe infections due to streptococci and staphylococci may occur even in strong, entirely healthy persons, but are more common in persons whose resistance has been reduced by overwork or disease. However, they are quite rare

The elimination of invading bacteria from the blood depends upon various factors. Chief among the latter are the bactericidal properties of the blood, the processes of immunization with the formation of specific protective substances, and the reticulo-endothelial system in the spleen, the Kupffer cells of the liver, the bone marrow, the lymph nodes, and the capillary endothelial cells of the blood and lymph vessels

The author describes in detail the clinical signs of pyogenic general infection, especially the manifestations of circulatory weakness. Toxic general infection is due not only to bacterial toxins, but also to the toxins of protein decomposition (Lexer, 1922).

Of most importance in the treatment of pyogenic general infection is thorough opening up of the local focus from which the general infection had its origin. The surgeon should not hesitate even to amputate an extremity if this appears necessary. In the

thrombo embolic form of generalized pyogenic infection early ligation of the affected veins should be done. The purpose of general treatment is the strengthening of the defensive forces. Treatment with bactericidal sera has not given uniformly satisfactory results, and in cases of acute general infection Lexer found vaccine treatment of no particular value. The effect of convalescent serum and of bacteriophage lysates has been variously interpreted. The use of collargol is to be rejected as it causes a blockade of the reticulo-endothelial system. Treatment with proteins for which numerous substances are available has been found beneficial by Lexer only in cases of chronic mild general infection, viz., those in which the condition was due chiefly to the effects of toxins. The value of the recent method of causing the formation of an aseptic abscess by the use of turpentine has not yet been proved. Under certain conditions the repeated transfusion of blood in small quantities (from 150 to 200 c cm.) is beneficial. This is effective in cases of prolonged metastatic general infection after the appearance of a new metastatic focus. When toxic manifestations (circulatory weakness) predominate results from this method are hardly to be expected. Under such conditions strophanthin and the other cardiac stimulants (adrenalin) and hot baths are indicated. If convalescent blood is available for transfusion it should be used. The effect of general stimulation of the reticulo endothelial system by repeated roentgen irradiation of the entire body and the effect of short wave therapy is questionable. The author mentions also the thesmin treatment suggested by Jentzer.

For the prevention of pyogenic general infection early opening of every possible primary focus and careful treatment of such foci after their incision are of great importance. Spreading infiltration with increasing resorption fever should be incised without waiting for the mass to soften. Waiting for an abscess to develop may result in the breaking down of tissue and invasion of the blood stream. Careful attention paid to the wound surfaces formed by the incision both at the time of the incision and in the subsequent changing of dressings will be rewarded by a fall in the fever whereas mechanical irritation will cause an increase in the fever due to increased resorption and frequently also to a local spread of the inflammation lymphangitis erysipelas or metastasis. (HAIN) JOHN W. BRENNAN M.D.

Diamantis A. Ectopic Bilharziasis and the Hepatic Stage of the Bilharzial Parasite in Man (Bilharziasis ectopiques. Bilharziose expérimentale et stage hépatique chez l'homme du parasite bilharzien). *J. de méd. et chir.* 1935 39 308

Diamantis states that while the zoological cycle of the bilharzial parasite outside the human body is well known the development of the cercaria after they have entered the body has not yet been de-

termined. Parasitologists and clinicians maintain that, in man, a hepatic stage is necessary but some of them admit that the route by which the parasites reach the liver requires further investigation. The author is of the opinion that it is not necessary to postulate a hepatic stage for the bilharzial parasite and that the supposition of such a stage involves a migration contrary to the course of the blood stream which is anti-anatomical and anti-biological.

The theory that the parasite has a hepatic stage is based on the discovery of the adult worm in the hepatic branch of the portal vein at autopsy in the cases of persons dying of bilharziasis and in animals experimentally infected. However the worms found in the portal vein at autopsy are often not fully developed sexually and are not the common schistosomum hematobium but the schistosomum mansoni the type causing intestinal bilharziasis. It is more probable that they recently entered the vein from the infected rectosigmoid region rather than that they migrated from the vein toward the organs of the pelvis. In experimental animals it has been impossible to reproduce the typical vesical or rectal lesions of bilharziasis in man. The parasites that enter the portal vein remain there and do not migrate to other organs.

In man, the most characteristic lesions of bilharziasis involve the urinary bladder and the lower portion of the uterus. In some cases the lesions may extend to other portions of the genito-urinary tract. However, in all the organs involved the veins in which the adult parasites are found are of perineal origin. In intestinal bilharziasis the lesions are located chiefly in the rectosigmoid region and the veins containing the adult parasites are those tributary to the perineal venous circulation.

A few cases of bilharzial tumor or bilharzioma in the skin or mucous membranes have been reported. It would be difficult to explain such cases by the supposition that the parasite passes through a hepatic stage. These cases are to be explained by the theory that if the cercaria enter the body in the perineal region they find conditions most suitable for their development and migration to the bladder, rectum and neighboring organs whereas if they enter elsewhere in the body, conditions are unfavorable for their development.

The author believes the cercaria may penetrate the skin in any region but as a rule enter the skin in the perineal region beneath which are the organs most favorable for their development. Conditions being unfavorable elsewhere cercariae that enter the skin in other regions are usually lost hence ectopic bilharziomas are rare. During the period of incubation (about eight weeks) the cercariae remain in the veins of the pelvic viscera where they mature sexually copulate and lay eggs. That the cercariae enter the veins rather than the lymphatics is shown by the route of their migration and the organs invaded. (ALICE M. MEYERS.)

BIBLIOGRAPHY of CURRENT LITERATURE

NOTE—THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

Head

- Avulsion of the scalp T O OTTO Ann Surg 1935, 102: 315
- Circoid aneurism of the scalp J H LAONNET and L L OMAY Rev Assoc med argent, 1935, 40 670
- A table knife in the cranium, craniectomy followed by complete recovery J E FELD J Am M Ass, 1935 105 432
- The management of depressed fractures of the skull and of skull defects E S GLANZMAN Ann Surg 1935, 102 53
- Intradiploic epidermoid (cholesteatoma) of the skull P C BUCK Arch Surg, 1935 31 100
- Chordoma of the base of the skull G LIVINGSTON Proc Roy Soc Med, Lond, 1935, 28 1427
- A case of sagittal sinus thrombosis and subdural abscess following nasal sinusitis A R MACGREGOR and A B SMITH J Laryngol & Otol, 1935, 50 600
- The treatment of thrombosis of the lateral sinus, a summary of the results obtained during twelve years at the Massachusetts Eye and Ear Infirmary P L MUELLER Arch Otolaryngol, 1935, 22 131
- Traumatic osteomyelitis of the frontal bone complicating pansinusitis A case report A L BASS Kentucky M J, 1935, 33 356
- Congenital deformities of the face, types found in a series of 1,000 cases W B DAVIS Surg, Gynec & Obst, 1935, 61 201
- Macroglossia of the mandible D THEODORESCU Rev de chir, Bucharest, 1935, 35 22
- The Vorschuetz apparatus in the treatment of complicated fractures and defects of the jaw M WASSERMAN Zentralbl f Chir, 1935, p 914
- The pathogenesis and clinical course of actinomycosis of the jaw G ANHAUSEN Deutsche Zahn- usw Heilk, 1935, 2 197
- Tumor of the superior maxilla, resection A J PAVLOVSKY and A DI PIETRO Bol y trab Soc de cirug de Buenos Aires, 1935, 19 384
- Tuberculosis of the submaxillary gland H MONDOR and P GAUTHIER-VILLARS Presse med, Par, 1935, 43 897

Eye

- Short studies on the history of ophthalmology II Sir Jonathan Hutchinson, the greatest "generalized specialist," and his contribution to ophthalmology B CHANCE Arch Ophth, 1935, 14 203
- The responsibility of the general practitioner in diseases of the eye Z W JACKSON J Med Ass Georgia, 1935, 24 290
- Inclusion bodies in ophthalmia neonatorum, further note S R. GIFFORD and N K LAZAR Arch Ophth, 1935, 14 197

- Hyaline bodies (Drusen) C D F JENSEN Arch Ophth, 1935, 14 260
- Cerebrospinal fluid studies in ten cases of tobacco-alcohol amblyopia F D CARROLL Am J Ophth, 1935, 18 720
- Some clinical observations on anisocoria W. L. HUGHES Am J Ophth, 1935, 18 715
- Exophthalmos Ocular complications, causes from primary lesions in the orbit; surgical treatment A B REESE Arch Ophth, 1935, 14 41
- The surgical aspects of pulsating exophthalmos Report of a case spontaneous in origin Operation, recovery J H GUTMANN Internat J Med & Surg, 1935, 48 250
- A pedigree of congenital optic atrophy embracing sixteen affected cases in six generations A H THOMPSON and G T W CASHFELL Proc Roy. Soc Med, Lond, 1935, 28 1415
- Ophthalmomyiasis W B ANDERSON Am J Ophth, 1935, 18 609
- Lymphoma of the eye and adnexa A report of thirteen cases P J LEINFELDER and C S O'BRIEN Arch Ophth, 1935, 14 183
- Glaucoma, with special reference to its pathology, and a report of two cases of secondary glaucoma J R COFF J Nat M Ass, 1935, 27 97
- Glaucoma accompanying nevus flammeus L B DUNN Am J Ophth, 1935, 18 700
- A critique of glaucoma operations H S GRADLE Am J Ophth, 1935, 18 730
- Experiences with glaucoman C HAMBURGER Brit J Ophth, 1935, 19 455
- A new bandage for the eye especially recommended for use after intra-ocular operation D KATZ Arch Ophth, 1935, 14 263
- The reticulum in the chronically hyperplastic conjunctiva H D LAMB Am J Ophth, 1935, 18 724
- Case report A wood splinter in the right orbital cavity J L SENGSTACK New York State J M, 1935, 35 809
- Lymphoma of the orbit R R VILLEGAS and C S DAMEL Bol y trab Soc de cirug de Buenos Aires, 1935, 19 340
- Lipoma of the orbit following implantation of fat after enucleation B CUSHMAN Arch Ophth, 1935, 14 265
- Some remarks on the recession operation for squint J G MILNER Brit J Ophth, 1935, 19 448
- Recession operation with control suture. O B NUGENT Am J Ophth, 1935, 18 744
- Strabismus The present status of its treatment G N HOSFORD California & West Med, 1935, 43 143
- The effect of experimental diabetes on the cornea of dogs, its relationship to the administration of Vitamin A. E P RALLI, E B GRESSER, and G. FLAUM Arch Ophth, 1935, 14 253
- A knife for corneal grafting H B STALLARD. Brit. J Ophth, 1935, 19 459

INTERNATIONAL ABSTRACT OF SURGERY

580

- The sodium content of aqueous vitreous and serum
P W SALT Am J Ophth 1935 18 906
Uveitis with associated alopecia poliosis Arch Ophth,
deafness Report of a case W S DAVIES Arch Ophth,
1935 14 239
Uveoparotitis S J COHEN and M A RABINOWITZ J
Am M Ass 1935 105 496
Uveoparotid tuberculosis I D KRUSKAL and J M
LEVITT Am J Ophth 1935 18 735
Developmental defects of the lens and their embryology
I MANN Glasgow M J 1935 124 40
Rapidly developing cataracts after dinitrophenol W W
BOARDMAN California & West Med 1935 43 118
The effect of extract from cataractous human lenses on
senile cataract. E SELINGER Arch Ophth 1935 14
244
The pre operative study of the cataract patient H H
TURNER Pennsylvania M J 1935 38 840
New speculum and lens forceps for the intracapsular
cataract operation H SCHROEDER Arch Ophth 1935
14 268
Intracapsular extraction of the crystalline lens with
electrodiaphania A MOREU Am J Ophth 1935 18
739
Intracapsular cataract extraction by the Knapp method
as compared with the classical procedure. A further report
L E APPLEMAN Arch Ophth 1935 14 249
Report of an operation for cataract performed by the
technique of Barraquer J MALBRAN Semana med 1935
42 238
The etiology of episcitis J M GRISCOM Pennsylv
vania M J 1935 38 860
Some points in sclerocorneal trephining R H ELLIOT
Brit M J 1935 2 334
Detachment of the retina P C KRONFELD and T H.
LLO Chinese M J 1935 49 723
Retinitis proliferans A C REID Proc Roy Soc Med
Lond 1935 28 1408
Bilateral retinal glioma treated by radiation. A clinical
and histological report A G FEWELL and W E FAY
Arch Ophth 1935 14 199
Primary melanosisarcoma of the optic disk J LEVITT
Arch Ophth 1935 14 229

Ear

- Cough considered from the otolaryngological viewpoint
L H CLEFF Laryngoscope 1935 45 509
The relationship between infections of the upper respira-
tory tract and the ear J G DWYER Laryngoscope 1935
45 489
A new syringe for removing ceruminous impactions from
the external auditory canal L E HETRICK Laryngo-
scope 1935 45 560
Forty two cases of cancer of the external ear R
PENYELON and A MOREL Rev de chir Par 1935 54
547
The function of the central acoustic nuclei examined by
means of the acoustic reflexes R LORENTE DE NO
Laryngoscope 1935 45 573
Facial paralysis from acute middle ear disease H
DRENTWASS Pennsylvania M J 1935 38 854
The treatment of acute suppurative otitis media by
synergizing with alcohol V SCHMIDT J Laryngol & Otol
1935 50 594
Some practical and theoretical points in labyrinthology
G DOHLMAN Proc Roy Soc Med Lond 1935 28
1371
Some further remarks on labyrinth tests A R TWEEDIE
Proc Roy Soc Med Lond 1935 28 1381

- Erosion of the bone in the neighborhood of the auditory
canal due to neoplasms W P BAILEY and N GOTTEN
Pennsylvania M J, 1935 38 844
Considerations on suppurative of the petrous pyramid
M C MYERSON H W RUBIN and J G GILBERT Arch
Otolaryngol 1935 22 61
Radical mastoidectomy in adults with tuberculous
and active pulmonary tuberculosis I MUSKAT Arch
Otolaryngol 1935 22 143
The present status of mastoidectomy W C BOWERS
Laryngoscope 1935 45 535
Hemolytic streptococcus meningitis of otitic origin A J
CRACOWANER Laryngoscope 1935 45 541
Generalized meningitis of otitic origin The use of forced
spinal drainage in treatment report of a case W B
ALLAN Arch Otolaryngol 1935 22 182

Nose and Sinuses

- External deformities of the nose and their correction
S ISRAEL Texas State J M 1935 31 281
Some cases of rhinoplasty for nasal deformities J N
ROY Canadian M Ass J 1935 33 158
Recent discoveries in the pathology of the nasal and
aural mucosa R A FENTON and O LARSELL West J
Surg Obst & Gynec 1935 43 456
An anatomical investigation of the blood vessels of the
lateral nasal wall and their relation to the turbinates and
sinuses H H BURVHAM J Laryngol & Otol 1935 50
560
Persistent epistaxis thrombocytopenia M SORSEY
Proc Roy Soc Med Lond 1935 28 1430
The treatment of intractable nasal hemorrhage by in-
jections of moccasin snake venom S DICK J Am M
Ass 1935 102 412
Herpetic lesions in otorhinolaryngology A A ALEX
ANDRE Presse med Par 1935 43 1145
Mycotic infections in otolaryngology W D GILL
Texas State J M 1935 31 272
Atrophic rhinitis-osena with special reference to treat-
ment P S STOLT Laryngoscope 1935 45 526
Tuberculous of the nasal septum M L FORMBY
Proc Roy Soc Med Lond 1935 28 1430
Nucleic acid and nucleotide therapy in nasal diseases
contributions to the study of the chemical aspects of nasal
diseases S L RUSKIN Arch Otolaryngol 1935 22 172
The effects of irradiation on allergic nasal mucosa L
B BERNHEIMER Arch Otolaryngol 1935 22 165
Progress in otolaryngology. A summary of the biblio-
graphic material available in the field of otolaryngology
the paranasal sinuses S SALINGER Arch Otolaryngol
1935 22 185
Osteoma of the frontal sinus A review of the literature
and the report of a case presenting extended invasion of
the orbit W L GATEWOOD and N SETTEL Arch Oto-
laryngol 1935 22 154
Additions to the complete operation on the fronto-
ethmoidal sinuses F SMITH Arch. Otolaryngol
1935 22 184
Intranasal operation for chronic maxillary sinusitis
End results in 200 cases in which the principles of Kuester
were employed H L WILLIAMS J Am M Ass 1935
105 96
The right angle incision in the radical (Caldwell Luc)
antrum operation L P MONSOV Arch Otolaryngol
1935 22 34
The use of ultrashort waves in sinus therapy C K
GALE Laryngoscope 1935 45 520
A method of embedding temporal bones E W HIGGINS
Arch Otolaryngol 1935 22 186

Mouth

- Self-protecting mechanism of the mouth against endogenous bacterial flora, and movements of extrinsic organisms within the oral cavity C W STUART, W N KUNDSON, and L ARNOLD J Dental Res, 1935, 15 41
- The clinical forms of unilateral harelip V VEAU Deutsche Ztschr f Chir, 1935, 244 595 [517]
- Harelip and its treatment H FUSS Arch f klin Chir, 1935, 182 253
- The technique of harelip operations H FUSS Chirurg, 1935, 7 372
- So-called mixed tumors of the upper lip E VAHERI Acta chirurg Scand, 1935, 76 577 [518]
- Fibroma of the upper lip. M ZAMPETTI Rassegna internaz di clin e terap, 1935, 16 706
- Three hundred and eighty-five cases of carcinoma of the lip IACOBOVICI and ONACA Rev de chir, Bucharest, 1935, 38 1
- The operative treatment of cleft palate P R MICHAEL Beitr z. klin Chir, 1935, 161 468
- The operative repair of cleft palate A B LE MESURIER Canadian M Ass J, 1935, 33 150
- The operative results in cleft palates operated upon unsuccessfully G AMHAUSEN 59 Tag d deutsch Ges f Chir, Berlin, 1935 [518]
- Tuberculosis of the mouth B L FEUERSTEIN Am J Surg, 1935, 29 313
- Adenocarcinoma of the oral cavity W L WATSON Am J Roentgenol, 1935, 34 53 [518]
- Electrical currents and buccal cancer S H STURGIS and R J NAGLE J Dental Res, 1935, 15 17
- Carcinoma of the mouth, with especial reference to treatment H L ALBRIGHT Radiology, 1935, 25 24 [519]

Pharynx

- Angioma of the fauces M VLASTO Proc Roy Soc Med, Lond, 1935, 28 1431
- Septicemia following tonsillitis C HIRSCH New York State J M, 1935, 35 767
- Cysts of the tonsils A PAVLOVSKY Bol y trab Soc de cirug de Buenos Aires, 1935, 19 339
- Tonsillar cysts of the neck BRACHETTO-BRIAN, PAVLOVSKY, and ZORRAQUIN Bol y trab Soc de cirug de Buenos Aires, 1935, 19 471
- Tonsillar cysts of the neck O IVANISSEVICH and A J PAVLOVSKY Bol y trab Soc de cirug de Buenos Aires, 1935, 19 503
- Tonsillectomy as an emergency operation A A CASTANÉ Rev méd de Barcelona, 1935, 12 512
- The healing of the tonsillectomy wound W DFAN Kentucky M J, 1935, 33 357

Neck

- Epidemic benign myalgia of the neck B F MASSELL and P SOLOMON New England J Med, 1935, 213 399

- Surgical diseases of the cervical lymph glands J D HANCOCK Internat J Med & Surg, 1935, 48 245
- Branchial cyst of the neck R L MASCIOTTRA and S V. URQUIZA Rev méd-quirúrg. de patol. femenina, 1935, 3: 743
- Cystic hydrops of the neck D P MACGUIRE Arch Surg, 1935, 31 301
- Lympho-epithelial cysts of the neck C D SALOJ and J M CRO Bol Soc de cirug de Rosario, 1935, 2 123
- The diagnosis of tumors of the carotid gland V SCHMIEDEN and L MAHLER Med Klin, 1935, 1 513
- The pituitary in experimental cretinism I Structural changes in the pituitaries of thyroidectomized rats I T ZECKWER, L W DAVISON, T. B KELLER, and C S LIVINGOOD, II Am J M Sc, 1935, 190 145
- A clinical study of the mild grades of hypothyroidism B P SEWARD Ann Int Med, 1935, 9 178
- The thyroid gland and heart disease O BRENNER Brit M J, 1935, 2 199
- Suppurative thyroiditis S T MTVARELIDZE Vestn Khir, 1935, 37 176
- A clinicopathological and experimental study of the functional-structural relationship of goiter J RABINOVITCH, J R PEARSON, and H W LOURIA Endocrinology, 1935, 19 383
- The pathology of volinian goiter G M GUREVITCH Vestn Khir, 1935, 38 55
- The prophylaxis of goiter DE COUTO and SILVA Folha med, 1935, 16 291
- Contributions on the clinical characteristics of Basedow's disease O VOSS Deutsche Ztschr f Chir, 1934, 244 1 [520]
- Pre-operative preparation and operative results and indications in Basedow's disease F STARLINGER Wien klin Wchnschr, 1935, 1 401
- Practical experiences with the surgical treatment of Basedow's disease H HEIM Chirurg, 1935, 7 147 [521]
- Surgery of the thyroid gland C. A NAFE J Indiana State M Ass, 1935, 28 377
- The surgical treatment of 183 consecutive thyroid cases with no mortality G W HORSLEY. Virginia M Month, 1935, 62 249
- The effect of tracheal occlusion on the hypertrophy of thyroid transplants and remnants E W WORKMAN and G G MILLER Brit J Surg, 1935, 23 141
- The physiopathology and surgery of the parathyroids A S INTROZZI Semana méd, 1935, 42 251
- The rôle of the splanchnics in the adductor spasm of the vocal cords following visceral traction N BREWER and D S BRYANT Anes & Anal, 1935, 14 190
- A particular clinical type of laryngeal tuberculosis S CITELLI Riforma med, 1935, 51 1015
- Vocal nodules and crossed arytenoids W A C ZERFFI Laryngoscope, 1935, 45 532
- Contact ulcer of the larynx C JACKSON and C L JACKSON Arch Otolaryngol, 1935, 22 1

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings; Cranial Nerves

- The clinical and therapeutic significance of variations in pressure of the cerebrospinal fluid in cranial trauma Rev de cirug, Hospital Juarez, Mex, 1935, 6 367
- Variations in pressure of the cerebrospinal fluid in cranial trauma. M BAEZA Rev de cirug, Hospital Juarez, Mex, 1935, 6 393

- The association of complete anosmia and agusia in craniocerebral trauma J HELSMOORTEL and R. NISSEN Rev oto-neuro-oftalmol y de cirug neurol Sud-Americana, 1935, 10 171
- Concussion of the brain O BERNER Am J Surg, 1935, 29 273
- The treatment of head injuries R EARL Minnesota Med, 18: 521

The treatment of craniocerebral injuries L DAVIS
J Michigan State M Soc. 1935 34 48

Urgent indications for operation in recent closed
traumatic cranial and cerebral injuries A JENTZER J de
chir 1935 46 23

The unsolved problems of brain injury E F LEHMAN
and W H PARKER Internat Clin, 1935 5 180

Incisions of the pia mater and formalin block as a
method of surgical treatment for true epilepsy V M
OSTROVSKY Vestn Khir 1935 38 191

An unusual intracranial emergency G PHILLIPS Med
J Australia 1935 2 380

Foreign body in the brain F SALAMERO and J U
MARIN Rev méd de Barcelona 1935 12 9

Abdominal pain as a symptom of disease of the brain
I S WECHSLER J Am M Ass 1935 20, 647 [524]

The recognition of some forms of intracranial lesions
C W SCHWARTZ Am J M Sc 1935 190 220

The simulation of intracranial tumor by lead encephalopathy in children with remark concerning the surgical
treatment of the latter P C BUCY and D V B CRANAN
J Am M Ass 1935 105 344 [525]

Encephalocele G TVADKNEVKO Vestn Khir 1935
38 182

Frontal sinusitis with osteomyelitis and frontal lobe
brain abscess following swimming S E ROBERTS J
Kansas M Soc 1935 36 312

Latent brain abscess secondary to sphenoid sinusitis
with a case report M A LEVAKOFF South M J 1935
8 100

Brain abscess as a complication of septic pleuropulmonary disease D A NECKERSON New England J Med
1935 213 228

The treatment of brain abscess P G FLOTHOW
Laryngoscope 1935 4, 506

The diagnosis and treatment of intracranial tumors at
Gand in the course of the last four years J DE BOSSCHER
Rev belge d sc méd 1935 253

Brain tumor A report of two cases R A KNOX and
G W RAMSEY Pennsylvania M J, 1935 38 85,

Angioma of the frontal lobe craniectomy O F
MAZZINI and D BRACHETTO BRIAN Bol y trab Soc de cirug
de Buenos Aires 1935 19 363

Tumor of Rathke's pouch SOLER and CARRERAS
Medicina Madrid 1935 6 49

Cortical blindness due to symmetrical occipital metastases
T GRACANOT and F R RUIZ Rev méd Lat Am
1935 20 605

A modified coronal incision J L POPPEN Ann Surg
1935 102 317

Injuries of the middle meningeal artery E W KLER
Arch f klin Chir 1935 182 133 [524]

Acute aseptic meningitis P HERNANDEZ J Nat M
Ass 1935 27 115

Acute aseptic meningitis I M ALLEN and F M
SPENCER Med J Australia 1935 2 275

Meningioma of the brain L POLSEFF Fol neuropath
eston 1935 14 2

The repair of an injury of the dura of the middle cranial
fossa with viable muscle O J DIXON Arch Otolaryngol
1935 22 151

Tumors of the gasserian ganglion M K KOM SSAROV
Vestn Khir 1935 38 64

Major trigeminal neuralgia R G SPURLING Ken
tucky M J 1935 33 372

The injection of the sphenopalatine ganglion S L
RUSKIN Laryngoscope 1935 45 315

Results of removal of the stellate ganglion in traumatic
facial paralysis J A CAEIRO Bol y trab Soc de cirug
de Buenos Aires 1935 19 397

Removal of the stellate ganglion in traumatic facial
paralysis P JACQUET Bol y trab Soc de cirug de
Buenos Aires 1935 19 409

Spinal Cord and Its Coverings

Röntgen exploration of the subarachnoid space—
myelography N FORRO Radiol mei 1935 21 457 [524]

The injection of alcohol into the spinal canal for the
relief of pain V R ABRAHAM Ann J Surg 1935 29
317

Indications and accidents of lumbar puncture L M
GUTHRIE Rev de cirug Hospital Juarez Mex 1935
6 397

Indications and accidents of lumbar puncture P
AMARILLAS Rev de cirug Hospital Juarez Mex 1935
6 407

Further experiences in the operative treatment of spina
bifida occulta HACKENBROU Ztschr f orthop Chir
1935 62 90

The value of vertebral measurements in the roent
genogram for the diagnosis of tumors of the spinal
cord G MARTINOFF Fol neuropath eston 1935 14
126

Tumors of the spinal cord S D SMOKE Texas State
J M 1935 31 278

The surgical treatment of ependymal glioma of the
spinal cord L J ADELSTEIN and G H PATTERSON
Arch Surg 1935 30 997

A contribution to the study of intraspinal meningo
eothelomas J D HARLOUT GOT and M D HAR
LOUT GOT Actas Soc de cirug de Madrid 1934 4 15 [525]

The value of chordotomy in gastric crises L BEVEDFX
and T SILKETT Orvosi hetil 1935 pp 100 237 63

Peripheral Nerves

The peripheral manifestations of the specific nerve
sheath tumor (neurilemmoma) A P STOUT and W CAR
SON Am J Cancer 1935 4 734

The use of the spinal cord as a heteroplastic graft for
peripheral nerves A GOSSET and I BERTRAND Bull et
mém Soc nat de chir 1935 61 887 [526]

Sympathetic Nerves

Operation on the sympathetic nervous system in
severe asthma H GODARD Presse méd Lar, 1935 43
1220

The treatment of bronchial asthma by dorsal sympa
thectomy G L L LEVIN Ann Surg 1935 101 166 [526]

Experimental studies on the pathophysiology of the
sympathetic nervous system in angina pectoris
GIBSON KOTELLA Ann ital di chir 1935 14 221

Splanchnic nerve section in juvenile diabetes G DE
TAKATS Ann Surg 1935 102 22

Miscellaneous

New advances in neurosurgery H OLIVECORA
J Neurology 1935 26 14

The possibility of surgery and re-education in the treat
ment of spastic paralysis M BASTON Rev de cirug de
Barcelona 1935 5 1

Cutaneous innervation An experimental study L H
LANIER H M CARNEY and W D WILSON Arch
Neurol & Psychiat 1935 34 1 [527]

SURGERY OF THE THORAX

Chest Wall and Breast

- The bleeding breast A AGUECI *Clin chir*, 1935, 11, 562
- The bleeding nipple E T VINOKUR *Vestn Khir*, 1935, 37, 174
- Bilateral lactating supernumerary axillary mammary glands A H MOURADIAN *Med Rec*, New York, 1935, 142, 113
- Some practical points in relation to breast tumors J MILLER *Canadian M Ass J*, 1935, 33, 161
- Roentgen diagnosis of tumors of the breast M RITVO, P F BUTLER, and E E O'NEIL *J Am M Ass*, 1935, 105, 343
- Fatty tissue tumors of the breast J G MENVILLE *Am J Cancer*, 1935, 24, 797 [528]
- Biopsy in breast lesions J C BLOODGOOD *Ann Surg*, 1935, 102, 239
- Early diagnosis of cancer of the breast R B GREENOUGH *Ann Surg*, 1935, 102, 233
- Carcinoma of the mammary gland in an inbred stock of albino mice A C WILLIAMS, L E SILCOX and B HALPERT *Am J Cancer*, 1935, 24, 823
- The value of pre-operative irradiation in breast cancer Studies on eighty-one operable cases F E ADAIR and F W STEWART *Ann Surg*, 1935, 102, 254
- Surgical principles in cancer of the breast D LEWIS *Ann Surg*, 1935, 102, 252
- The histological grading of mammary carcinoma L SOPHIAN *Ann Surg*, 1935, 102, 224
- The classification of mammary cancer J EWING *Ann Surg*, 1935, 102, 249
- The use of skin flaps in cosmetic plastic operations on the breast E EITNER *Zentralbl f Chir*, 1935, p 625. [528]

Trachea, Lungs, and Pleura

- Endoscopy in the treatment of diseases of the upper respiratory tract J D KERNAN *Laryngoscope*, 1935, 45, 409
- The development of a bronchoscopic service, with a report of thirty cases of endoscopy for foreign bodies M S LLOYD *Laryngoscope*, 1935, 45, 613
- The recognition of radiopaque foreign bodies at the periphery of the lung E F BUTLER *Am J Surg*, 1935, 29, 285
- A tooth in the left lower bronchus D H BALLOX *Canadian M Ass J*, 1935, 33, 185
- The injection of iodized oil into the bronchial tree Passive method through the nose H M GOODYEAR *Laryngoscope*, 1935, 45, 511
- Transnasal bronchography with lipiodol G HICQUET *Arch mcd-chir de l'appar respir* 1935, 10, 304
- The working test as a chemical method for determining the function of the lungs I L BLUM *Acta med Scand*, 1935, Supp 65 [528]
- Hernia of the lung A H WINKEL *J Thoracic Surg*, 1935, 4, 627
- The pathology of the vessels of the pulmonary circulation O BRENNER *Arch Int Med*, 1935, 50, 211
- Two cases of pneumothorax W B HOLDEN *West J Surg, Obst & Gynec*, 1935, 43, 445
- Hydatid cyst of the lung, a case of spontaneous rupture and recovery W LEE *Practitioner*, 1935, 135, 223
- Modern treatment of pulmonary tuberculosis Surgical C H PAYNE *J Nat M Ass*, 1935, 27, 100.

- Surgical treatment in pulmonary tuberculosis at the Wisconsin State Sanatorium R D THOMPSON, L K STEINKOPFF, K G BULLEY, and C M YORAN *Wisconsin M J*, 1935, 34, 553
- Results of surgery of pulmonary tuberculosis R. A. IZZO, O P AGUILAR, and H D AGUILAR *Semana med*, 1935, 42, 1 [530]
- Artificial pneumothorax in children between three and twelve years L L ALLEN *J Nat. M. Ass*, 1935, 27, 114
- Artificial pneumothorax treatment of lobar pneumonia S J SHIPMAN and F Cox *J Thoracic Surg*, 1935, 4, 643
- Results of endopleural chemotherapy in artificial pneumothorax F D GOMEZ and J C NEGRO *Arch uruguayos de med*, cirug y especial, 1935, 6, 647
- Phrenic nerve operations H M DAVIES *Lancet*, 1935, 229, 418
- The general concept of indications for phrenicectomy. A SARNO, R PIAGGIO BLANCO, and R PIAGGIO BLANCO *Arch uruguayos de med*, cirug y especial, 1935, 6, 657
- The mechanism of the action of phrenicectomy; indications in pulmonary tuberculosis R. DE LACHAUD *J de mcd de Bordeaux*, 1935, 112, 574
- Syndrome of cervical sympathetic paralysis following phrenicectomy R F VACCAREZZA, G POLLITZER, and E SINGER *Rev Asoc med argent*, 1935, 49, 739
- The treatment of pulmonary cavities by extrapleural paraffine plombage and its results G SEBESTYEN *Tuberkulosis*, 1935, 3, 53
- Anatomical fundamentals of high thoracoplasty I N COPONAS *Clin y lab*, 1935, 20, 65
- Inferior thoracoplasty and its technique R FINOCHIETTO and O A VACCAREZZA *Rev Asoc med argent*, 1935, 49, 745
- Resection of the clavicle in thoracoplasty J FIOILLI *Bull et mcm Soc nat de chir*, 1935, 61, 952
- The open intrapleural pneumolysis operation R DAVISON and F I FRENCH *J Thoracic Surg*, 1935, 4, 607
- Experimental total pneumectomy J J LONGACRE *J Thoracic Surg*, 1935, 4, 587 [530]
- The application of the zipper rubber dam in lobectomy. H B STEPHENS *J Thoracic Surg*, 1935, 4, 646
- The symptomatology of putrid abscess of the lung A S W TOURROFF and S E MOULTON *J Thoracic Surg*, 1935, 4, 558
- Putrid abscess of the lung following dental operations L STERN *J Thoracic Surg*, 1935, 4, 547 [530]
- Pleural adhesions in pulmonary abscesses D L ZARINA *Vestn Khir*, 1935, 38, 109
- Lung abscesses and their treatment A J S PINCHIN and H V MORLOCK *Lancet*, 1935, 228, 1360 [531]
- Errors in the diagnosis of pulmonary neoplasms F G TRIVERO *Med Ibera* 1935, 10, 57
- Benign neoplasms of the bronchus H V MORLOCK and A J S PINCHIN *Brit M J*, 1935, 2, 332
- The early classification and early diagnosis of cancer of the bronchus M S LLOYD *New England J Med*, 1935, 213, 101 [532]
- Bronchography in pulmonary cancer M R CASTEN, J PALACIO, and F S MAZZEI *Rev Asoc med argent*, 1935, 49, 731
- Miliary carcinomatosis of the lung AVSLEP, LEONET, and SOURICE *Arch mcd-chir de l'appar respir*, 1935, 10, 297
- Another case of primary carcinoma of the lung J V LAMPA *Med Ibera*, 1935, 10, 165

Primary carcinoma of the lungs combined with pulmonary tuberculosis. B M FRANK *Am J Surg* 1935 29 201

Lymphosarcoma of the hilum of the left lung with regional and distant metastasis V AGNELLO *Riforma med.*, 1935, 52 832

The intrapleural pressure. BAILEY *Presse med* Par 1935 43 1267

The beneficial effect of asites on the pleuinsy of pneumothorax M S OLIVERA *Arch uruguayos de med, cirug y especial* 1935 6 650

The use of the breast as material for plugging fistulas in thoracotomy F ALFARO *Actas Soc de cirug de Madrid* 1935, 4 183

Postpneumonic atelectasis as a possible cause of chronic emphysema F F BUTLER *J Thoracic Surg* 1935 4 380

Attempts to treat pleural emphysema with caustics W WAGNER 59 Tag d deutsch Ges f Chir Berlin 1935

The operative treatment of empyema cavities F KRAMPF *Zentralbl f Chir* 1935 p 1281

The mortality of empyema U MAES J R VFAL and F M McFETRIDGE *J Thoracic Surg* 1935 4 615

The comparison of various methods for the division of pleural adhesions O M MISTAL *Presse med* Par 1935 43 153

Heart and Pericardium

A case of penetrating wound of the heart M A BLAGO-VESTICHENSKY *Vestn Khir* 1935 37 178

Stab wounds of the heart A study of electrocardiographic changes polyserositis (Pick's syndrome) and pericarditis J D KOVACKY and G MILES *Arch Int Med* 1935 56 245

The roentgenkymograph as a new aid in the diagnosis of adhesive pericarditis S E JOHNSON *Surg Gynec. & Obst* 1935 61 169

Obstructing pericarditis the effect of resection of the pericardium on the circulation of a patient with constrictive cordis C S BURWELL and D FLICKINGER *Arch Int Med* 1935 56 250

Advances in the field of thoracic surgery the pericardium and the heart H FISCHER *Zentralbl f Chir* 1935 p 1278 [532]

Esophagus and Mediastinum

A roentgenological study of the normal esophagus P BETOLLIÈRES *Presse med* Par 1935 43 1242

Esophageal and tracheal wounds due to chicken bones periesophageal phlegmon recovery H BELLANGER. Bull et mèm Soc d chirurgiens de Par 1935 27 379

The relative frequency of various affections of the esophagus according to a statistical study of cases observed in the last ten years J GUERZ *Bull et mèm Soc d chirurgiens de Par* 1935 27 331 [533]

Report of a case of dermoid cyst of the anterior mediastinum developing into the right side of the thorax R CISNEROS *Bol y trab Soc de cirug de Buenos Aires*, 1935 19 452

Miscellaneous

Some roentgenological studies of the dynamics of the thorax J W PIERSON *J Am M Ass* 1935 10 100

Thoracic injuries J V BOHRER *New York State J M* 1935 35 749

A case of chylothorax I C VILLEGAS *Med mexicana* 1935 16 338

Clinically significant irregularities of the diaphragm H C BAILLY *J Thoracic Surg* 1935 4 513

Elevation of the right diaphragm report of a case with a review of the literature chiefly from the standpoint of etiology and diagnosis L FELDMAN J M TRACE and M I KARLAN *Ann Int Med* 1935 9 62 [534]

Left embryonic diaphragmatic hernia (LUTIMY) CARRARO and VAN LAERVELD *Bull Soc d'obst et de gynéc de Par* 1935 4 404

Congenital diaphragmatic hernia of the left side operation recovery R DROTTER *Bull et mèm Soc nat de chir* 1935 61 913

A severe traumatic diaphragmatic hernia F VANDEL *Padiol med* 1935 2 693

Clinical and roentgenological studies of diaphragmatic hernia of the fundus of the stomach A J BENGOLIA A J HENDRICKSON and L L HENDRICKSON *Ann argent de enferm d apar digest* 1935 10 347

Diaphragmatic hernia of the stomach entral right retrohepatic type P LE CAC *Bull et mèm Soc d chirurgiens de Par* 1935 27 348

Transdiaphragmatic hernia F R LÓPEZ *Rev de cirug Hospital Juarez Mex* 1935 6 450

An operative case of diaphragmatic hernia T KJELLIN and L BERG *Hygiea Stockholm* 1935 9 303

Large tumors in the lower chest E K FREY *Zentralbl f Chir* 1935 p 907

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

A symptom of inguinal hernia T V STUPITSKY *Vestn Khir* 1935 37 168

An unusual case of incarcerated inguinal hernia with attempts at spontaneous cure F KROEBER *Arch f klin Chir* 1935 192 205

The repair of large hernial sacs in inguinal hernia L S KRAVICH *Vestn Khir* 1935 38 180

Using aponeurosis sutures in inguinal hernia C M MATOS *Rev de cirug Hospital Juarez Mex* 1935 6 463

Modifications of the radical treatment of inguinal hernia R S LEBERO *Rev de cirug Hospital Juarez Mex* 1935 6 450

Umbilical hernia A H POTTER *Am J Surg* 1935 29 304

Lumbar hernias T T PERAKOV *Vestn Khir* 1935 37 170

Intestinal hernia F S J KING *Brit J Surg* 1935 23 35

A case of hernia femoralis prevasculatis A S LASERENKO *Vestn Khir* 1935 37 163

Cooper's hernia D I MASHCHENKO *Vestn Khir* 1935 3 165

Two cases of rare hernia K P VIKHREVA *Vestn Khir* 1935 37 171

Three hundred and fifty operations for incarcerated hernia M M MAKAROV *Vestn Khir* 1935 38 91

Experiences with the Bassini operation with my modification A ADLER *Zentralbl f Chir* 1935 p 1159

Further experiences in the use of the peritoneum as a protective agent in operations on the stomach H NIK WISSE *Beitr z klin Chir* 1935 161 476

- The peritoneal serosa and viscerovisceral reflexes G ROTOLO Arch ital di chir, 1935, 40: 207
- The present status of the diagnosis and treatment of pneumococcal peritonitis R DEMEL Deutsche med Wchschr, 1935, 1: 658
- The origin of encapsulating peritonitis J CHARLES Bull Soc d'obst. et de gynec de Par, 1935, 24: 410
- Chronic encapsulating peritonitis E GIUPPONI Policlin, Rome, 1935, 42 sez chir 403
- Gonococcal peritonitis before puberty J C McCANN Am J Surg, 1935, 29: 301.
- Acute purulent pre-omental peritonitis B GORODETZKY Nov Khir Arkh, 1935, 33: 444
- A new concept in the treatment of acute general peritonitis T R SEALA Texas State J M, 1935, 31: 284
- A case of acute peritoneal lymphangitis A FOLLIASSON and J FAYOLAT Bull et mém Soc nat de chir, 1935, 61: 908
- Mesenteric vascular occlusion H. SNEIERSON Ann Surg, 1935, 102: 171
- Mesenteric thrombosis J K DONALDSON and B F STOUT Am J Surg, 1935, 29: 208
- Mesenteric thrombosis and embolism ORTH Zentralbl f Chir, 1935, p 1303
- Inclusions of bone in the great omentum C E DE LA COLINA Semana méd, 1935, 42: 281

Gastro-Intestinal Tract

- The endocrines in gastro-intestinal disorders D L SEATON. South M J, 1935, 28: 724
- Diagnostic gastroscopy, with special reference to the flexible gastroscope R SCHINDLER J Am M Ass, 1935, 105: 352
- Röntgenological study of the stomach A H ORTIZ Med rev mexicana, 1935, 16: 370
- Röntgenological study of the diseased stomach A H ORTIZ Med rev mexicana, 1935, 16: 307
- Röntgenological study of the stomach after the Judd operation E MATTEUCCI Radiol med, 1935, 22: 787
- Normal and pathological gastric villi F MOUTIER Presse méd, Par., 1935, 43: 1178
- A clinical study of gastric analysis J G LIRA. Rev méd de Chile, 1935, 63: 3
- Fractional gastric analyses and their relation to clinical symptoms J LERNER Rev méd de Chile, 1935, 63: 20
- Fractional gastric analyses in gastro-intestinal disease. J ZAMORA Rev méd de Chile, 1935, 63: 231
- Some observations in gastric ptosis T A PITTS South M & S, 1935, 97: 441
- Volvulus of the stomach N ANAGNOSTIDIS Rev de chir, Par, 1935, 54: 515 [535]
- Volvulus of the stomach V M BAL Vestn Khir, 1935, 38: 77
- Foreign bodies in the stomach, removal by peroral endoscopy. L H CLERF Surg, Gynec & Obst, 1935, 61: 210
- The prognosis in congenital stenosis of the pylorus G HERZFELD and H L WALLACE Lancet, 1935, 229: 385
- Sclerofibrosis of the antrum and pylorus SÁNCHEZ MARTÍNEZ Prog de la clin, Madrid, 1935, 23: 453
- A clinical study of phlegmonous gastritis V V HERBST Vestn Khir, 1935, 37: 182
- Peptic ulcer F G CONNELL Wisconsin M J., 1935, 34: 527
- The cause of peptic ulcer D J TWOHIG Wisconsin M J., 1935, 34: 530
- Experimental ulcer of the stomach and duodenum L CARDENAL and J S MARTÍNEZ Actas Soc de cirug de Madrid, 1935, 4: 85

- Peptic ulcer and the "anxiety complex", failure of pharmacologically sustained hypersecretion and hypermotility of the stomach to produce chronic gastric ulcer in dogs J R ORNDORFF, G S BERGH, and A C IVY Surg, Gynec & Obst, 1935, 61: 162.
- Gastroduodenal ulcer DE BESNIER-BOECK Folha med, 1935, 16: 296
- Peptic ulcer following pyloric exclusion and peptic ulcer following the use of non-absorbable suture material. J ABADIE Bull et mém Soc nat de chir, 1935, 61: 976
- A new case of perforation of gastric ulcer following abdominal contusion CORDIER and CALVET Bull et mém Soc nat de chir, 1935, 61: 964
- The treatment of gastroduodenal ulcer E Pozzi and C FERNICOLA Arch argent de enferm, d apar digest, 1935, 10: 381
- A critical study of the treatment of gastroduodenal ulcer. F L ROCHA Rev de cirug, Hospital Juarez, Mex, 1935, 6: 411
- The treatment of peptic ulcer with specific vaccine J SELINGER. Internat J Med & Surg, 1935, 48: 258
- The treatment of gastroduodenal ulcer with histidine. E ARON Presse méd, Par, 1935, 43: 1195
- The applicability of certain surgical procedures for duodenal and gastric ulcer V C HUNT Northwest Med. 1935, 34: 291
- The surgical treatment of perforated gastric and duodenal ulcers O ORTH Arch f klin Chir, 1935, 181: 675
- Resection in the treatment of perforated gastric ulcer A BRUNNER Helvet med Acta, 1935, 2: 208
- Fundusctomy in the treatment of peptic ulcer, an experimental study H SEELY and R ZOLLINGER. Surg, Gynec & Obst, 1935, 61: 155
- Rare gastric tumors BOERGER. Zentralbl f Chir., 1935, p 1297
- The treatment of gastric carcinoma in the Oncological Institute of Leningrad during the last seven years A O VERESHCHINSKI Vestn Khir, 1935, 38: 67
- Gastric surgery K O. PETERS. Arch f klin Chir, 1935, 181: 651
- Indications for operative intervention in diseases of the stomach and intestines G BLACKBURNE J Med Soc New Jersey, 1935, 32: 455
- Pyloric gastrectomy with interposition of the jejunum between the duodenum and the stomach D GALLO Rev. de cirug, Hospital Juarez, Mex, 1935, 6: 423.
- The prevention of hemorrhage following operations on the stomach H KUNZ Zentralbl f Chir, 1935, p 1158
- Wound healing after anterior gastro-enterostomy II The fate of mucosal inclusions and their prevention; description of a new suture technique An experimental study in dogs K H MARTZLOTT and G R SUEKOW Arch Surg, 1935, 31: 10 [535]
- Intestinal obstruction A M WRIGHT J Med Soc New Jersey, 1935, 32: 465
- The modern concept of acute intestinal obstruction C G ROBERTS J Nat M Ass, 1935, 27: 110
- Intestinal obstruction by round worms following an anthelmintic J B KIRK and A Y. CANTEN Brit. M J., 1935, 2: 298
- Early postoperative obstruction, causes, diagnosis, and treatment Six personal cases P LAURENT Bull et mém Soc d chirurgiens de Par, 1935, 27: 376
- The roentgen picture in cystoid pneumatosis of the intestines G GRABERGER. Acta radiol, 1935, 16: 439. [536]
- A clinical case of cystoid pneumatosis of the intestines F ENGLUND and F WAHLGREN Acta chirurg Scand 1935, 76: 601 [536]
- Ileus J ROSENTHAL Orvosi hetil, 1935 p 523

- Adynamic ileus W B MARBLEY *Internat J Med & Surg* 1935 48 250
- Tumors of the small bowel O CAMES and R MAYER *Bol Soc de ciruj d Rosario* 1935 2 70
- Chronic duodenal ileus in infancy and childhood R MILLER and H C GAGE *Lancet* 1935 120 815 [536]
- Roentgenological manifestations of duodenal ulcer of both the right and left sides M ESTIC and V NACIR *Rev Asoc med argent* 1935 40 690
- Perforated ulcers of the duodenum F C BRENNER *Ann Surg* 1935 101 185
- A rare duodenal ulcer resection recovery C LACER *Bull et mém Soc d chirurgiens de Par* 1935 27 336
- The problem of gastric resection for duodenal ulcer W WALTERS *Surg Gynec & Obst* 1935 61 207
- Resection with exclusion in non-resectable duodenal ulcer H FERRAS *Zentralbl f Chir* 1935 p 1454
- External duodenal fistula. A clinical study based on 13 cases including 4 personal cases P FOMALART *Riv op* 1935 13 [537]
- The technique of treatment of the duodenal stump in gastrectomy J A ALVAREZ *Rev de ciruj Hospital Juarez Mex* 1935 6 470
- Jejunal diverticulosis R S KOSKOPAL *Surg Gynec & Obst* 1935 61 123
- Operative treatment of peptic ulcer of the jejunum by anterior gastro-enterostomy and Braun's anastomosis O ORTEZ *Zentralbl f Chir* 1935 p 1056
- Peptic ulcer following experimental jejunocecostomy I E McMASTER *Arch Surg* 1935 35 341
- Necrotomy D P MACCURE *Am J Surg* 1935 20 190
- Various complications associated with Meckel's diverticulum E NEUMANN *Muenchen med Wchnschr* 1935 2 655
- Intestinal obstruction in Meckel's diverticulum R. DÍAZOVAN and R BLIZZO *Bol y trab Soc de ciruj de Buenos Aires* 1935 10 410
- Two cases of intestinal obstruction caused by Meckel's diverticulum V M OSTROVSKY *Vestn Khir* 1935 37 180
- Intestinal obstruction due to Meckel's diverticulum. M CAMBOA and R ESMAN *Bol y trab Soc de ciruj de Buenos Aires* 1935 19 418
- The surgical treatment of constipation and painful colon L LUCKENMANN *Rev mexicana de ciruj ginec y cáncer* 1935 3 393
- Surgical treatment of dolichocolon with particular reference to one stage resection with exteriorized termino-terminal suture SE ZOLLE and MILLER *J de chir* 1935 40 187
- The treatment and clinical picture of Hirschsprung's disease in children GRATOR *Zentralbl f Chir* 1935 p 1201
- Ulcerative colitis. A study of bacteria in the isolated colons of three patients by culture and by inoculation of monkeys G M DACK T E HEINZ and L R DRAC *Thor Arch Surg* 1935 31 225
- Melanosis coli its clinical significance A J ZOBEL and D A STEWART *Arch Surg* 1935 30 974 [537]
- The surgery of the colon exclusive of operations for tumors and cysts and on the appendix L DOMINICI *Arch ital di chir* 1934 18 781 [538]
- Colostomy and its inherent difficulties T WARWICK *Lancet* 1935 220 298
- The clinical syndrome of mobile cecum A CONSIGLIO *Arch ital di chir* 1935 40 284
- Volvulus of the cecum acute and chronic with reports of eight cases R H SWEET *New England J Med* 1935 213 287
- Four cases of hernia of the cecum and appendix M M BASS *Vestn Khir* 1935 38 188
- The roentgenological diagnosis of the diseased appendix A ORLEY *Brit J Radiol* 1935 8 48 [539]
- Intussusception of the appendix P BOST *Polichin. Rome* 1935 42 sec prat 1394
- Strangulated internal hernia simulating appendicitis V I SCHIRACER and A B RAGINS *Am J Surg* 1935 20 306
- Chronic tonsillitis and the appendix syndrome R M PENA *Rev mexicana de ciruj ginec y cáncer* 1935 3 350
- Appendicitis P G SKILLERN *J Indiana State M Ass* 1935 28 365
- The diagnostic significance of several painful areas in chronic appendicitis T S KOCAY *Vestn Khir* 1935 38 85
- Correlation of the radiological and operative findings in chronic appendicitis W L HARNETT and G GILBERT *Brit M J* 1935 2 327
- Changes in gastric function in relation to appendicitis M TIRNEY *Arch ital di chir* 1935 40 1 [539]
- The peritoneal umbilical syndrome in acute appendicitis D V DUBNARZ *Vestn Khir* 1935 37 161
- Histological changes in the meso-appendix in chronic appendicitis P MARCONI *Arch ital di chir* 1935 40 311
- Perinephric phlegmon following acute appendicitis J H DE TERESA *Artas Soc de ciruj de Madrid* 1935 4 130
- On perforating inflammation of the vermiform appendix with special reference to its early diagnosis and treatment. R FIFE *New England J Med* 1935 213 245
- Carcinoid of the appendix R MERCHANT *Bol y trab Soc de ciruj de Buenos Aires* 1935 10 373
- A case of volvulus of the sigmoid E S GARRE and L CORDEIRO *Arch argent de enferm d apar digest* 1935 10 189
- The treatment of dolichosigmoid with or without volvulus by resection and immediate anastomosis with temporary cholestomy GOYARD *Bull et mém Soc nat de chir* 1935 61 954
- Furulent proctosigmoiditis as a forerunner of stenosis of the rectum O MOLTLE *Uze k f Leger* 1935, p 5 5
- The operative treatment of fibrous structure of the rectum J P LOCKHART MUMFORD and O A LLOYD-DAYES *Brit J Surg* 1935 25 10 [539]
- Traumatic rectojejunal fistula J A CAZIRO *Bol y trab Soc de ciruj de Buenos Aires* 1935 20 347
- Complications developing after operation for rectal fistula W R RAINEY *J Missouri State M Ass* 1935 32 320
- Malignancy of the rectum and colon as determined by the Grunkin test H E BACON *J Lancet* 1935 35 408
- Cancer of the rectum H H WHEELER *J Indiana State M Ass* 1935 28 372
- The use of electrocoagulation in the treatment of rectal carcinoma W A FANSLER *J Lancet* 1935 35 495
- A simplified one stage procedure for cancer of the rectum (combined abdominoperineal) D V TAYLOR *West J Surg Obst & Gynec* 1935 43 447
- Carcinoma of the rectum D DEL VALLE A YUNGER and A MARANO *Arch argent de enferm d apar digest* 1935 10 60
- Resection of the rectum with restoration of continuity C A FANNETT *Lancet* 1935 220 423
- Three cases of abdominoperineal resection of the rectum with derivation of the sigmoid through the perineum M VÁZQUEZ *Rev de ciruj Hospital Juarez Mex* 1935 6 451

The diagnosis and treatment of some common anorectal diseases F B CAMPBELL J Oklahoma State M. Ass., 1935, 28, 288

Hemorrhoids and sclerosing treatment P CHÈNE and J DUBARRY J de méd de Bordeaux, 1935, 112 555 [540]

Experiences with Whitehead's operation for hemorrhoids G CALINICH Zentralbl f Chir, 1935, p 1154

Alcoholization in the treatment of anal fissure A SICARD Presse méd, Par, 1935, 43 1227

One hundred cases of anorectal fistulas; end-results M HERZMANN Rev méd-quirurg de patol femenina, 1935, 3 635

Liver, Gall Bladder, Pancreas, and Spleen

The accessory veins of the liver A LUR'E Vestn Khir, 1935, 37, 187.

A clinical study of the function of the liver by means of hepatic puncture E FROLA Presse méd; Par, 1935, 43 1198

Pathologicophysiology of the liver I MATSUO and K. ICHUKE Acta scholae med univ imp, Kyoto, 1935, 18 44

Paracholecystic cirrhotic hepatitis A FORTUNATO Riforma med, 1935, 51, 981

The bilirubin curve in icterus I Catarrhal icterus B VARELA-FUENTES and C VIANA Arch uruguayos de med, cirug y especial, 1935, 6 601

A rare type of icterogenic spirochetosis M CREYX, P GEORGET, and H BONNEL J de méd de Bordeaux, 1935, 112 527

A case of hepatopulmonary fistula R SILVESTRI Policlín, Rome, 1935, 42 sez prat 1479

Congenital non-parasitic single cyst of the liver E A VANDER VEER Am J Surg, 1935, 29 195

Hydatid cysts of the liver opening into the biliary passages H C ANASTASIA Rev méd Lat-Am, 1935, 20 865

Primary carcinoma of the liver with hepatosplenography D E EHRLICH and F C ANSANELLI J Am M Ass., 1935, 105 355

An intrahepatic calculus revealed by the X-rays during operation, the value of visceral roentgenography during operation HEITZ-BOYER Bull et mém Soc nat de chir, 1935, 62 924

Congenital absence of the gall bladder M DANZIS Am J Surg, 1935, 29 202

Congenital malformation of the gall bladder L UGELLI Policlín, Rome, 1935, 42 sez chir 423

Cholecystography its present clinical value R McWHIRTER Brit J Surg, 1935, 23 155

Gastro-intestinal series, intravenous and oral cholecystography W G SCOTT J Missouri State M Ass., 1935, 32 324

The relative value of cholecystography and the excretory test in the diagnosis of cholecystitis M CHIRAY, I PAVEL, and A LOMON Presse méd, Par, 1935, 43 1265

Diseases of the gall bladder C P G WAKELEY Brit M J, 1935, 2 243

Enlargement of the gall bladder R F CAPTER Ann Surg, 1935, 102 194

The relation of cholecystitis to pathological changes in the liver R COLP, H DOUBILET and I E GERBER Ann Surg, 1935, 102 202 [541]

A bacteriological study of cholecystitis M A ETCHERVERRY and A A MARCHISSIO Rev méd-quirurg de patol femenina, 1935, 3 750

Primary echinococcus infestation of the gall bladder C ROSSI Policlín, Rome, 1935, 42 sez chir 410

Carcinoma of the gall bladder C F W ILLINGSWORTH Brit J Surg, 1935, 23 4 [541]

Squamous-cell cancer of the gall bladder, with special reference to its histogenesis G COCCI Arch ital di chir, 1935, 40 253

Recurrence of symptoms following operations on the gall bladder W. SCHOENDEBE Chirurg, 1935, 7 353

The occasional avoidable cause of complaints following cholecystostomy M MÁTVÁS Zentralbl f Chir, 1935, p 1272

The sequelae of cholecystostomy W H BARBER and F M HARRISON Ann Surg, 1935, 102 218

Surgical drainage of the biliary passages in cases in which biliary stasis had damaged the hepatic cells O L GÓMEZ Rev. Asoc med argent, 1935, 49 655

Anatomical and bacteriological study of the biliary passages following drainage ROMEO Chn chir, 1935, 11 497

An interesting case of compression of the biliary passages by a hydatid cyst L CARDENAL Actas Soc de cirug de Madrid, 1935, 4 169

Stones in the hepatic duct L LEX Lancet, 1935, 229, 249

A cured case of idiopathic dilatation of the ductus choledochus M MURATA Zentralbl f Chir, 1935, p 2169

Carcinoma of the common bile duct K G. TAGIBEKOV Vestn Khir, 1935, 37 185

Subphrenic abscess R H OVERHOLT and J C DONCH-ESS New England J Med, 1935, 213 294 [542]

Aberrant pancreas C CICERI Riforma med, 1935, 51 945

Aberrant pancreatic tissue in the gastro-intestinal tract, a report of twenty-four cases C D BRANCH and R. E. GROSS Arch Surg, 1935, 31, 200 [543]

A case of hyperinsulinism relieved by partial pancreatectomy J A BERRY Brit J Surg, 1935, 23 51

Acute edematous pancreatitis L SANTANELLI Bol Soc de cirug de Rosario, 1935, 2: 116

Etiological factors of acute pancreatic necrosis A GHON Schweiz med Wchnschr, 1935, 1 201.

The spleen and the reticulo-endothelial system, with particular reference to structural change in various organs and the effect of splenectomy and of ligation and periautal sympathectomy of the splenic artery E CIOCCA Arch ital di chir, 1935, 40 129

Traumatic rupture of the spleen W BRONAUGH West Virginia M J, 1935, 31 363

Rupture of the spleen with delayed hemorrhage and spontaneous cure E A HUNTER Brit M J, 1935, 2, 256

A case of ectopic spleen twisted on its pedicle diagnosed as an ovarian cyst twisted on its pedicle B DESPLAS Bull. et mém Soc nat. de chir, 1935, 61 985

Congenital hemolytic icterus with cholelithiasis C D BROOKS, W R CLINTON, and L B ASHLEY Am J Surg, 1935, 29 319

Indications and results of splenectomy in hemorrhagic diseases E RANZI and L P AVANCINI Wien klin Wchnschr, 1935, 1 637

Splenectomy for leukemia H L POPPER. Med Klin, 1935, 1 615

Splenectomy and leukemia L MARVAL, C SIMONETTI, and G BOXCHELI Semana méd, 1935, 42 261

Successful splenectomy in the third stage of splenic anemia R J WEISKITTEL J Med, Cincinnati, 1935, 16 299

Miscellaneous

Abdominal rigidity in certain cases of trauma J USÓA Rev méd de Barcelona, 1935, 12 518

Obscure causes of chronic abdominal pain C H HEMBROW Australian & New Zealand J Surg, 1935, 5: 77

The syndrome of Kulenkampf in intra abdominal bleeding R B BERMAN *Vestn Khir* 1935 38 184

Rupture of a spurious aneurism of the inferior epigastric artery with a subperitoneal hematoma and lethal hemorrhage following paracentesis for ascites M WEINBERGER *Wien med Wochenschr* 1935 7 6 8

Gangrenous inflammation in the abdomen I. SIVILAT *Deutsche med Wochenschr* 1935, 1 6 3

Течиста ла ман АЛЕКСАНДРОВ *Зentralbl f Chir* 1935 p 1307

Indications for abdominal drainage during operation F АЛЕКСАНДРОВ *Urovisi hetul*, 1935, p 516

GYNECOLOGY

Uterus

Irregular shedding and irregular ripening of the endometrium H F TRAUT and J KUBER *Surg Gynec & Obst* 1935 61 145

The technique of stereohysteroscopy S CLASO *Acta obst et gynec Scand* 1935 15 117 (544)

Displacements of the uterus. Some facts and fallacies J H HANNA *Practitioner* 1935 135 231

Complete procidentia in the aged W T LUCIONE *Am J Surg* 1935 29 239

Support of the pelvic viscera and the mechanism of prolapse H KOSTER *Am J Surg* 1935 29 226

Subtotal colpoperineocleisis in the treatment of prolapse of the uterus R SCHWARTZ H E HUENGO and J L COSTA *Bol Soc de obst y gynec de Buenos Aires* 1935 14 197

The operation of Bouilly in the treatment of genital prolapse G MIRHEL and R ROUSSEAU *Gynecologie* 1935 34 375

A survey of the results of the treatment of prolapse and retroversion at the Royal Free Hospital from 1916 to 1935 M SACMON and G DEARVLEY *J Obst & Gynec Brit Emp*, 1935 42 623

Diseases of the cervix uteri C H DAVIS *Wisconsin M J* 1935 34 336

The cervix uteri and its treatment G C COOKER *South I & S* 1935 97 435

The treatment of chronic cervicitis R LARRY and J VILLAR *Clin obstet* 1935 37 428

Partial amputation and conical excision of the uterine cervix in chronic cervicitis E A BOERO *Semana m d* 1935 42 43

Uterine hemorrhage I ABELL *West Virginia M J* 1935 31 341

Life threatening hemorrhage of the uterus in essential thrombocytopaenia and its treatment L REUBEN *Med Welt* 1935 p 715

Metrorrhagia in patients with blood platelet deficiency A GUILLEMIN *Bull Soc d obst et de gynec de Par* 1935 44 413

True uterine cysts A ZALOKAR *Verhandl d Hong jugoslav chir Ges* 1934 4 84

Surface tension of the tissue of uterine tumors T KAWANO and G KAWANISHI *Jap J Obst & Gynec* 1935 18 340

Myohibroma of the ovary with heteroplastic bone formation I F STEIN *Am J Obst & Gynec* 1935 30 249

Malignant myoma S VIMAKOV *Bratslavsk Lk Li ty* 1935 13 140

Fibroma and carcinoma of the body of the uterus DE LAVOY, HUOCO and BÉDRIVE *Bull Soc d obst et de gynec de Par* 1935 44 300

Indophenol blue oxygen reaction of the blood in carcinoma of the uterus W MICHAELIS *Zentralbl f Gynec* 1935 p 1409

Early cancer of the cervix uteri. The practicability of its recognition before the stage of ulceration K H MASTILOV *Northwest Med* 1935 34 295

Cancer of the cervix and vagina in a case of complete procidentia L BRADY *Am J Obst & Gynec* 1935 30 277

Carcinoma of the cervix in young women G DORFER *Zeit f Chir f Geburtsh u Gynaek* 1935 110 349

Alenocarcinoma of the vaginal portion of the uterus H DAVENEL *Arch f Gynec* 1935 139 391

An unusual clinical course in carcinoma of the uterus VON DEUBERT *Zeitschr f Geburtsh u Gynaek* 1935 110 369

Carcinoma of the cervix uteri complicated by bilateral pyosalpinx C D HALLER *J Med Cincinnati* 1935, 16 301

Cancer developing in the stump of the cervix after subtotal hysterectomy C BÉCÈRE *Bull Soc d obst et de gynec de Par* 1935 44 372

Important considerations in the prevention of carcinoma of the cervix W LONG *South M J* 1935 28 219

The treatment of carcinoma of the body of the uterus operation of irradiation K NORDSTYER *Zentralbl f Gynaek* 1935 p 1415

The development of irradiation therapy for carcinoma of the uterus during the past two decades F GIL OROSKÉPÉS 1935, 2, 431

Radium treatment for cancer of the cervix P FINLEY *J Kansas M Soc* 1935 36 321

The necessity of removing the adnexa with the uterus in operating for carcinoma of the body of the uterus S WALLERICH *Zentralbl f Gynaek* 1935, p 385 (545)

Sarcoma of the uterus COLILLAS and BASTERRIA *Bol Soc de obst y gynec de Buenos Aires* 1935 14 179

A report on hysterectomies F A HUNTON *J Oklahoma State M Ass* 1935, 3 275

A series of 627 vaginal hysterectomies performed for benign disease with 3 deaths N S HANNEY *Am J Obst & Gynec* 1935 30 269

Total versus subtotal abdominal hysterectomy in benign uterine disease E H RICHARDSON *Am J Obst & Gynec* 1935 30 277

Regional anesthesia for minor operations on the cervix and body of the uterus A SEIREANU and G POPESCU *Chirsova Spitalul* 1934 54 420

Adnexal and Peritubal Conditions

Isposia of the broad ligament A E KAVNER *Am J Obst & Gynec* 1935 30 296

A further contribution on the occurrence of corpus luteum hormones K FURHARDT *Monatsschr f Geburtsh u Gynaek* 1935 99 717

Studies on the endocrine function of various ovarian cells A WESTMAN *Nord med Tidn* 1935 p 521

Dysovulation S HIRSHFELD *California & West Med* 1935 43 120

The relationship between menstrual disturbances and ovarian function H SIMONOV and E BRANDWEIN *Presse med Par* 1935 43 1233

Reactivation of ovarian function M FARRE *Compt rend Soc fran de gynec* 1935 3 142

Teleroentgenotherapy at intervals and the treatment of ovarian insufficiency P LEHMANN Compt rend Soc franc de gynéc, 1935, 5 146

The significance of hypophyseal insufficiency in disturbances of ovarian function F STROEBE Zentralbl f Gynaek, 1935, p 1156

The effect of ovarian hormone on the blood glucose of young rabbits AMILIBIA, MENDIZÁBAL, and BOTILLA LUSIÁ Arch de med, cirug y especial, 1935, 16 148

A case of peritoneal hemorrhage due to the rupture of a corpus luteum F F. FERRANDO Rev méd-quirúrg de patol femenina, 1935, 3 738

Severe intra-abdominal hemorrhage following the rupture of a corpus-luteum cyst G. LAKNER Magy Nőgyógy, 1935, 4 93

Hemorrhage due to rupture of the corpus luteum in a patient with blood-platelet deficiency A GUILLEMIN Bull Soc d'obst et de gynéc de Par, 1935, 24 412

The treatment of intra-abdominal hemorrhage due to corpus-luteum bleeding P MUELLEP Zentralbl f Chir, 1935, p 1300

Chronic typhoid abscess of the ovary L A SOLOFF and C S HERMANN Am J Obst & Gynec, 1935, 30 200

Three voluminous ovarian cysts L LÉON-BORCÉA Bull. Soc d'obst. et de gynéc de Par, 1935, 24 360

Perforation of a diverticulum of the pelvic colon into an ovarian cyst D J HARRIES J Obst & Gynec Brit Emp, 1935, 42. 653

Dermoid cyst of the ovary H D TRIMP Am J Surg, 1935, 29 299

Malignant degeneration of dermoid cysts of the ovary E PETROWA and C KARAEWA Arch f Gynaek 1935, 150 422

Brenner's tumor of the ovary H ŠIKL Bratislav lek Listy, 1935, 15 523

A clinical contribution on dysgerminoma ovarii H DWORZAK. Zentralbl f Gynaek, 1935, p 1282

Granulosa-cell and Brenner tumors of the ovary, report of a case with a review of those cases already recorded E B BLAND and L GOLDSTEIN Surg, Gynec & Obst, 1935, 61 250

A further contribution on granulosa-cell tumors E KLAFTEN Zentralbl f Gynaek, 1935, p 614 [545]

Cystico-adenofibromas of the ovary M A ETCHERVY and R MARTINEZ DE HOZ Rev méd-quirúrg de patol femenina, 1935, 3 712

The treatment of carcinoma of the ovary, with particular reference to cases in the Gynecological Clinic of the Medical Academy in Dusseldorf O SCHARLA 1934 Muenster i W u Dusseldorf, Dissertation

Experimental transplantation of the ovary G H ROMBERG Am J Surg, 1935, 29 249

Torsion of a healthy fallopian tube in a girl of fifteen years. C LEPOUTRE Bull Soc d'obst et de gynéc de Par, 1935, 24 388

A human ovum in a salpingitis isthmica nodosa A F LASH Am J Obst & Gynec, 1935, 30 287

Cancer in a tuberculous uterine tube J STOLZ and O MACRÁTOVÁ. Bratislav lek Listy, 1935, 15 465

Tubal sterilization by the method of Jerrie J JUNG Bratislav lek Listy, 1935, 15 282

External Genitalia

Some tumors of the external genitalia A L SCHERBAK Bratislav lek Listy, 1935, 15 456

The morphology of the vulva A BINET Gynécologie, 1935, 34 345

Pruritus vulvae and its treatment. F HORÁLEK. Bratislav lek Listy, 1935, 15 261

Melanosarcoma of the vulva; a case report. L GRF-HARDT Zentralbl f Gynaek, 1935, p 1421

A modified vaginal speculum. W D FULLERTON Am J Obst & Gynec, 1935, 30 297

Plastic operation for congenital absence of the vagina W F WELLS Am J Surg, 1935, 29 253

Vaginal aplasia and the creation of an artificial vagina S L ISRAEL Am J Obst & Gynec., 1935, 30 273

Experiences with plastic operations on the sigmoid colon in the repair of rudimentary vaginas B HEJDUK Bratislav lek Listy, 1935, 15 241

Trichomonas vaginalis vaginitis VERMELIN and DOMBRAY Bull Soc d'obst. et de gynéc de Par, 1935, 24 417

Zephriol in the treatment of trichomonas vaginalis vaginitis and trichomonal endometrial hemorrhage M. RODECURT Deutsche med Wchnschr, 1935, 1: 756

The biology of trichomonas hominis W BENDER Arch f Gynaek, 1935, 150 141

A case of urethral prolapse with complete closure of its external orifice and the formation of a vesicovaginal fistula in a woman M V PINEVITCH Vestn Khir, 1935, 38 102

A rare case of vesicovaginal fistula I SZENTEN Magy Nőgyógy, 1935, 4 83

The treatment of vesicovaginal fistula W. T FOTHERINGHAM Bol Soc de cirug de Rosario, 1935, 2 103

Operative correction following destruction of the vesicovaginal septum by radium ROEPKE Zentralbl f Chir, 1935, p 1309

Vaginal metastasis in hypernephroma K BOWES J Obst & Gynec Brit Emp, 1935, 42 630

Miscellaneous

Roentgenographic measurement of the pelvis C H NISEGGI Rev Assoc. med argent, 1935, 49 701

Total prolapse of the female urethra with partial gangrene C PARZANI Arch ital di chir, 1935, 40 123

An operation for incontinence STOECKEL Ztschr. f Geburtsh u Gynaek., 1935, 110 357

Newer studies on the gonadotropic hormone C HAMBURGER Nord med. Tidsskr, 1935, pp 169, 209

A study of diagnostic errors in four years of admissions to a gynecological service M. J SCHREIBER. Am. J. Surg, 1935, 29 239

Ovulation and menstruation R ARAIA Semana méd, 1935, 42 264

The stimulation of menstruation by artificial corpus-luteum hormone C KAUFMANN Klin Wchnschr, 1935, 1 778

Certain menstrual disturbances associated with low basal metabolic rates without myxedema S. F. HARVES and R D MUSSEY. J Am M Ass, 1935, 105 557

Hormonic induction of menstruation in amenorrheas of from three months' to nine years' duration C. W. DUNN. Am J Obst & Gynec, 1935, 30 186

Amenorrhea, breast secretion, and the positive Friedman test in a case of genital hypoplasia with left hydrosalpinx MANZI. Arch di ostet. e ginec, 1935, 42 371

Dysmenorrhea. L W. BARRY. Minnesota Med, 1935, 18: 525

The endocrinal origin of primary dysmenorrhea and its hormonal treatment, preliminary report. J T WITHERSPOON Endocrinology, 1935, 19 493

Dysmenorrhea with a congenital double uterus A J PAVLOVSKY, R. M. ODENA, and A DI PIETRO Bol Soc de obst y ginec de Buenos Aires, 1935, 14: 217

Metrorrhagia due to benzol. D PORCARO. Ginecologia, 1935, 1 705

The therapeutic value of low-dosage irradiation of the pituitary gland and ovaries in functional menstrual disorders C MAZER and L SPITZ Jr Am J Obst & Gynec 1935 30 214

Röntgenographic studies of the cranium of women with dysfunction of the genital organs M FAGGOLI Ginecologia 1935 1 624 [545]

Painful gynecological syndromes exclusive of menstrual disturbances F PARRA J de méd de Bordeaux 1935 112 595

The medical treatment of genital hemorrhage due to causes other than pregnancy and tumors TURPALL Rev franç de gynéc et d'obst 1935 30 473

The physiotherapy of genital hemorrhages in women from causes other than pregnancy and tumors H COOK RIADES Rev franç de gynéc et d'obst 1935 30 320 [546]

The surgical treatment of genital hemorrhages due to causes other than pregnancy and tumors F JAYLE Rev franç de gynéc et d'obst 1935 30 498 [546]

A non suppurative retro-uterine hematocoele expanding into the bowel A ALTHABE and G DELAOLA Rev méd quirurg de patol femenina 1935 1 693

Gonorrheal infections of the genital organs C BLICKER 1934 Munich Lergmann

The present status of the cancer problem in gynecology J FRECHET Ortopéd et 1935 25 419

Metastasis in cancer of the internal genitalia H HICKEP Zentralbl f Gynaek 1935 p 1 94

The surgical treatment of carcinoma of the female genitalia P SALAC Ztschr f Geburtsh u Gynaek, 1935 110 300 Ortopédés 1935 25 36

The uses and abuses of modern gland products in gynecological disorders E NOVAK J Am M Soc 1935 109, 662

Hormone therapy in gynecology H O NEWMAN Med Klin 1935, 1 500

Treatment with sex hormone preparations F MULLER CHRISTIANOV Ugesk f Læger 1935 p 515

The value of aspiration of the cave of Douglas in gynecology J STAVIKH Magy Nőgyógy, 1935 4 85

Principles of physical therapy in gynecology R A TCHERETOK Gynec et obst 1935 33 61

Electrotherapy and actinotherapy E NEUBERGER Rev franç de gynéc et d'obst 1935 30 581

The thermic effect of the short wave and of diathermy in the field of gynecology C VARCHA Ginecologia 1935 1 553 [547]

Conservatism in pelvic surgery T F VASS West Virginia M J 1935 31 549

OBSTETRICS

Pregnancy and Its Complications

The Zondek-Schheim pregnancy test with special reference to Reaction I M F LOTTRE J Obst & Gynec Brit Emp 1935 42 646

The Kapeller Adler reaction in pregnancy S OKAMOTO and Y YAMAMOTO Jap J Obst & Gynec 1935 13 321

The pregnancy test in relation to death of the ovum P M F BISHOP Lancet 1935 229 164

Ovarian cyst and pregnancy difficulty of diagnosis FAVREAL Bull Soc d'obst et de gynéc de Par 1935 24 400

Discussion on diet in pregnancy Proc Roy Soc Med Lond 1935 28 1335

The elderly primipara M P RUCKER South M & S 1935 97 450

Pregnancy in a patient with a complete double uterus B GREEN and C K MILLER Am J Obst & Gynec 1935 30 282

The significance of pain in the space of Douglas in ectopic pregnancy C STRAJANO Bol Soc de obst y ginec de Buenos Aires 1935, 14 171

Repeated ectopic gestation S VANCE Brit M J 1935 2 253

Four ectopic pregnancies in the same woman J B DANSON J Obst & Gynec Brit Emp 1935 42 651

Co-existing intra uterine and extra uterine pregnancy H H FAYON New England J Med 1935 213 401

Extra uterine pregnancy J E FITZGERALD and J I BRIFER Am J Obst & Gynec 1935 30 204

Extra uterine pregnancy following the injection of iodized oil for uteromalingography D POLOWE Am J Surg 1935 29 244

Four cases of extra uterine pregnancy carried to term K A HOFSTROM Fin ka Lak seilik Hll 1935 77 113

The symptoms of extramembranous pregnancy E A BOERO Bol Soc de obst y ginec de Buenos Aires 1935 14 213

Two cases of extramembranous pregnancy R PALMER and L CERNETZ Bull Soc d'obst et de gynéc de Par 1935 24 401

Interstitial pregnancy O FRANKL Ztschr f Geburtsh u Gynaek 1935 110 216

A case of intragamentous pregnancy carried to term A CERKOVIC Bratislav lek Listy 1935 15 176

Ovarian pregnancy H J HOLLOWAY Am J Obst & Gynec 1935 30 286

Ovarian pregnancy J BYLSKA Cinek polska 1 35 14 14

Two hundred and twenty eight cases of tubal pregnancy M JAFFRO 1934 Cologne Dissertation

A case of bilateral tubal pregnancy L LEON BONIFA Bull Soc d'obst et de gynéc de Par 1935 24 375

A case of tubo abdominal pregnancy HOFERZ Bull Soc d'obst et de gynéc de Par 1935 24 420

A clinical study of primary abdominal pregnancy L TOWA Clin Obstet 1935 37 404

Abdominal pregnancy with the delivery of a living child A C POWERS Am J Obst & Gynec 1935 30 203

Abdominal pregnancy with a macerated seven-and-one-half month fetus and infection TOWERS Fruehling-méd 1935 15 1095

Human girle placenta E FAUVEY Zentralbl f Gynaek 1935 p 2164

The Vorhers bag in the treatment of placenta previa M A KAPRIS New England J Med 1935 213 310

The treatment of abruptio placentae J A McLENNAN and W B BLAKER Am J Obst & Gynec 1935 30 226

Muscular spasm in the fetus a factor in the product in of malpresentation G F GIBBONS J Obst & Gynec Brit Emp 1935 42 596

Fetuses with cephalic malformations delivered in the Peiping Union Medical College Hospital A T LIM Chinese M J 1935 49 624

Röntgenological diagnosis of intra uterine fetal death A ROMERO Rev mensual Cirugia 1935 1 47

Fetus papyraceous in twin pregnancy J G CHERRY Am J Obst & Gynec 1935 30 296

The decidual reaction in the cervix and hemorrhage during pregnancy T SCHWARTZ Bratislav lek Listy 1935 15 460

Changes in the mucosa of the cervix during pregnancy, labor, and the puerperium E PETROWA and A BERKOW-SEAJA Arch f Gynaek, 1935, 159 339

Inversion of the uterus in two successive pregnancies P C FOX Am J Obst & Gynec, 1935, 30 295

A clinical study of the lower uterine segment and cervix in the last three months of pregnancy P FERRAZINI Rev méd d Rosario, 1935, 25 543

Studies on the iron metabolism in pregnancy K U TOVEPUD Norsk Mag f Lægevidensk, 1935, 96 259, 468

Variations of the total blood phosphorus in the physiological puerperal state G MORRA Ginecologia, 1935, 1 650 [548]

The corpus luteum of pregnancy in relation to the anterior pituitary gland M FERESTEN Endocrinology, 1935, 19 407

The effect of the administration of preparations of growth hormone of the anterior lobe of the pituitary upon gestation and the weight of the newborn (albino rats) R M WATTS Am J Obst & Gynec, 1935, 30 174

The effect of pancreatic extracts without insulin on the blood pressure in pregnancy MEPLINO Arch d obstet e gynec, 1935, 42 393

Abnormally high hormonal content of the blood serum in a case of pregnancy complicated by metrorrhagia L GERNEZ Bull Soc d'obst et de gynéc de Par, 1935, 24 398

The edema of pregnancy LEVY-SOLAL and GUEISSAZ Gynec et obst, 1935, 31 814

Hemorrhagic purpura during pregnancy SKUPIEWSKI, KIRSCHEN, and HAIMOVICI Rev Obstet, 1934, 14 20

Renal de-aminization in normal and pathological pregnancy BOTELLA LLUSIA Prog de la clin Madrid, 1935, 23 461

The upper urinary tract in pregnancy and the puerperium, with special reference to pyelitis of pregnancy D BAIRD J Obst & Gynec Brit Emp, 1935, 42 577

Pyelitis and ileus of pregnancy and the so-called toxemias G BUD Orvosi hetil, 1935, p 528

Are the toxemias of pregnancy on an allergic basis? L SEITZ Zentralbl f Gynaek, 1935, p 1207

The pre-eclamptic woman F B UTLEY Pennsylvania M J, 1935, 38 862

The relationship between eclampsia and changes in the weather A VON LATZKA Arch f Gynaek, 1935, 159 286

The experimental production and the pathogenesis of eclampsia J L WODON Bruxelles-méd, 1935, 15 1036 [548]

Evidence for the placental origin of the excessive prolapse of late pregnancy toxemia and eclampsia G VAN S SMITH and O W SMITH Surg, Gynec & Obst, 1935, 61 175

Polyneuritis of pregnancy R K FORD J Obst & Gynec Brit Emp, 1935, 42 641

Hypothyroidism in pregnancy, a further study C F BROWN and G SHEA Texas State J M, 1935, 31 287

A review of 190 cases of heart disease complicating pregnancy. B J HANLEY and J F ANDERSON Am J Obst & Gynec, 1935, 30 243

Pregnancy, cancer, and folliculin J A SCHOCKAERT Bruxelles-méd, 1935, 15 1010

Stomatological operations during pregnancy G MAHE Presse méd, Par, 1935, 43 1115

An outline of treatment for the various types of uterine abortions J T WITHERSPOON Am J Surg, 1935, 20: 256

Therapeutic abortion by the abdominal route A BRINDEAU and P LANTÉJOL Gynec et obst, 1935, 32 55

Missed abortion A WONG Chinese M. J., 1935, 40 609

A rubber catheter as an embolus in the heart following criminal abortion J. BLÁHA Bratislav lek Listy, 1935, 15 170

Saffron intoxication in febrile abortion VERMELIN and LOUYOT. Bull Soc d'obst et de gynéc de Par, 1935, 24 415

A case of criminal abortion B DELL'ORO, A CARONES, and L YACONCICK Bol Soc de cirug de Rosario, 1935, 2 59

Labor and Its Complications

A parallel study of labor in young and old primiparas J N NATHANSON Am J Obst & Gynec, 1935, 30 159 [548]

Labor in older primiparas G LAKNEP Magy. Nőgyógy, 1935, 4 91

A critical study of Frey's labor-pain count W SCHAFER and E WITTE Ztschr f Geburtsh u Gynaek, 1935, 110: 300

The induction of labor by the use of ecboics F SIFGEPT Med Klin, 1935, 1 671

Our results in the induction of labor at the end of pregnancy and stimulation of uterine contractions following rupture of the membranes J TUMA Bratislav lek Listy, 1935, 15 586

An abdominal belt as a mechanical aid before and during labor A DANBY J Obst & Gynec Brit Emp, 1935, 42 655

Sudden death of the mother during labor, delivery of the fetus by version K SCHMIDLECHNER Magy. Nőgyógy, 1935, 4 82

The lower uterine segment in labor D CONSOLI Clin obstet, 1935, 37 385

Rupture of the uterus during labor. S ZANELA Verhandl d i Kong jugoslav chir. Ges, 1934, 4 820

Obstetrical care of patients with a narrow pelvis by the general practitioner M HENKEL Therap d Gegenw, 1935, 76 193

Labor complicated by deformity of the promontory A YAMABE Jap J Obst & Gynec, 1935, 18 350

Complications of pregnancy and labor due to myelitis S A FRAYMANN Monatsschr. f Geburtsh u Gynaek, 1935, 99 210

The significance of the shape of the fetal head in the mechanism of labor E RYDBERG J Obst. & Gynec Brit Emp, 1935, 42 600

The etiology of occiput-posterior position H SEIDEN-TOFF and H GEREWITZ Arch f Gynaek, 1935, 159 126

Hematoma of the broad ligament following internal version, hysterectomy D BRUN Bull Soc d'obst et de gynéc de Par, 1935, 24 403

A discussion of the treatment of retroplacental hemorrhage with uterine apoplexy Statistics on retroplacental hematomas observed in the period from 1924 to 1935 V LE LORIER Bull Soc d'obst. et de gynéc de Par, 1935, 24 378 [549]

Obstetrical shock M P RUCKER Virginia M Month, 1935, 62 254

Anaphylactic shock from the use of pituitrin in an obstetrical case F W KOONS. J Kansas M Soc, 1935, 36 325

Obstetrical injuries to the birth canal E J HUMPHREY West Virginia M J., 1935, 31 359

Symphysiotomy M V FALSIA Bol Soc de obst y gynec de Buenos Aires, 1935, 14 202

Symphysiotomy in relation to cesarean section S VIDA KOVIĆ Verhandl d i Kong jugoslav chir Ges, 1934, 4: 784

- Cesarean section E F DAILEY Am J Obst & Gynec 1915 30 204
- The biological basis of cesarean section A ZALKAR Verhandl d 1 Kong jugoslav chir Ges 1934 4 777
- Indications and contra indications for cesarean section L. AULEY Med Klin 1935 1 604
- The extension of the indications for cesarean section experiences with cesarean section in the First Obstetrical Clinic Prague K KLAUS Verhandl d 1 Kong jugoslav chir Ges 1934 4 753
- The extension of the indications for cesarean section J FORNÉ Verhandl d 1 Kong jugoslav chir Ges 1934 4 766
- The extension of indications for cesarean section S HASTRUP Verhandl d 1 Kong jugoslav chir Ges 1934 4 772
- Indications for low cesarean section in breech presents W. J. ANDERODIAS and G. TERRY J de med de Bordeaux 1935 112 571
- Congenital absence of the uterine cervix and pregnancy cesarean section GELLE Bull Soc d'obst et de gynec de Par 1935 24 350
- Cesarean section with prolapse of the arm D SAVI LESKY and M. GEORGEVSCU Rev Obstet 1934 24 13
- Three cesarean sections in one patient during four years J FORNÉ Verhandl d 1 Kong jugoslav chir Ges 1934 4 805
- Transverse cesarean section in the lower uterine segment P GALL Clin. obstet 1935 37 425
- A review of twenty six cases of extraperitoneal (Latzko) cesarean section J F VORON Am J Obst & Gynec 1935 30 209
- Extraperitoneal cesarean section personal modification of the Michon technique COSTA FAISIA CHA MORRO MORRO and others Bol Soc de obst y gynec de Buenos Aires 1935 14 139
- Porro cesarean section A F IAN and W G CEM MINGS Am J Obst & Gynec 1935 30 109
- Blood loss during cesarean section W L DIERCKMANN and E F DAILEY Am J Obst & Gynec 1935 30 222
- Cesarean section statistics in Chicago hospitals F L CORNELL Am J Obst & Gynec 1935 30 295
- An analysis of 34 cesarean section cases in a ten year period at Michael Reese Hospital Chicago I F STEIN and M L LIVENHALL Am J Obst & Gynec 1935 30 192 [549]
- Results of cesarean section in the First Obstetrical Clinic of Karl's University in the past six years K KLAUS Bratislav lek Listy 1935 13 299
- A critical study of 107 cases of cesarean section by the new technique of the Danzig Clinic H THIESZ Zentralbl f Gynaek 1935 p 1275
- Twelve cases of normal delivery following low cervical cesarean section R PALLEZ and L. WERNER Bull Soc d'obst et de gynec de Par 1935 24 395
- Current techniques for obstetrical analgesia and anesthesia C GOTLAND and B C HIRST Am J Obst & Gynec 1935 30 157

Pernoxon hyoscine twilight sleep a review of thirty cases A M CLAYE J Obst & Gynec Brit Emp 1935 42 636

Puerperium and Its Complications

- Evidence in favor of a more active puerperium a study of 500 cases H B AYLER Canadian M Ass J 1935 35 144
- The puerperal perineum after forceps delivery F R NUGENT Am J Obst & Gynec 1935 30 240
- Post abortion anuria spastic symptoms the administration of sodium chloride recovery CHABANTER LONON OVELL MICRON and LELU Rev med de Chile 1935 63 55
- A case of myxedema following delivery M SCHWARTZ Gynec et obst 1935 32 77
- Puerperal sepsis L A CHROCH J Michigan State M Soc 1935 34 484
- Metastases in puerperal sepsis U MENZEL Monatsschr f Geburtsh u Gynaek 1935 69 204
- Indications and prognosis of irrigation therapy in septic puerperal conditions A CERNOCN Bratislav lek Listy 1935 15 185
- Syphilis following febrile delivery G BOYADZIEV Clin bulgar 1935 7 23

Newborn

- Bilateral peripheral paralysis of the radial nerve in a newborn infant L H SMITH Am J Obst & Gynec 1935 30 183
- A statistical observation on cephalohematomas praenatorum M ISHIDA Jap J Obst & Gynec 1935 14 34

Miscellaneous

- A record of five years antenatal and infant welfare work on estates in Malaya J G REIN Indian M Gaz 1935 70 411
- Notes on maternal mortality A WILSON Med J Australia 1935 2 281
- Maternal mortality Some practical points in prevention M F SMITH Med J Australia 1935 2 285
- Maternal mortality in Georgia during the year of 1935 Committee for the Study of Maternal Mortality J Med Ass Georgia 1935 24 280
- Hydatidiform mole Spontaneous rupture of the uterus H F McCLELL J Obst & Gynec Brit Emp 1935 42 661
- Hydatidiform mole in pernicious anemia I SIVERTIN Maske Nygöby 1935 4 60
- Experimental studies on the sex hormones in cases of hydatid mole with corpus luteum cysts ZARAFERAT FARABAN ROSENTHAL WESTER PORTMAN and STEFAN FORUM Rev obstet 1934 24 10
- Fetopic escular mole MORTA Arch. diuol. e gynec 1935 47 350
- Studies of glutathione F W ORRIST and F P WOODS Am J Obst & Gynec 1935 30 137

GENITO-URINARY SURGERY

Adrenal Kidney and Ureter

- An experimental contribution on the relationship between the suprarenal cortex and muscular activity M TROVÉ and P MURCARTO Clin chir 1935 11 630
- The treatment of Addison's disease R PRIORAT Presse med Par 1935 43 1272

- Adenoma of adrenal cortex simulating pituitary to myhism (Cushing's syndrome) R M CALDER and J W PRUSS Bull John Hopkins Hosp Balt 1935 57 on [546]
- Paraphimosis of the suprarenal gland C M McKERRA and I F HINES J Urol 1935 34 65
- Spontaneous regression of a hypernephroma M J PAT Am J Cancer 1935 24 830

Some factors influencing the lengths of survival following bilateral suprarenalctomy. E D Sisson and B March. *Endocrinology*, 1935, 19 380

Function of the kidney following bilateral removal of the aorticorenal ganglion A FILIPPI *Ann ital di chir*, 1935, 14 403

The anatomy and diagnosis of double kidney T A IONEL *J. d'urolog méd et chir*, 1935, 39 531.

Roentgenological diagnosis of horseshoe kidney M SCHILLINGS and J HELLEPUTTE *Rev belge d sc méd*, 1935, 7 257

A pyelographic study of the mobile kidney L TURANO *Radiol med*, 1935, 22 661

A new symptom for the differential diagnosis of pararenal and subperitoneal abscess R PALMA *Riforma med*, 1935, 51 999

Hyperparathyroidism and renal disease, with a note as to the formation of calcium casts in this disease T ALBRIGHT and E BLOOMBERG *J Urol*, 1935, 34 1 [550]

A study of soft fibrous calculi of the kidney in children L Sussr *Ann. ital di chir*, 1935, 14 301.

Calculus of the renal pelvis treated by posterior pyelolithotomy. A QUEVEDO *Med rev mexicana*, 1935, 16 328.

Solitary cyst of the kidney C D ALLEN and J W RAGSDALE *Am J Surg*, 1935, 29 311

Retropertoneal cyst arising in a persistent metanephros with congenital absence of the right kidney and ureter L W KRAUSS and R STRAUSS *J Urol*, 1935, 34 97

Renal tumors H WADE *Australian & New Zealand J Surg*, 1935, 5: 3

The natural history of some renal tumors E R MINTZ *New England J Med*, 1935, 213 251

Squamous-cell carcinoma of the kidney, a report of four cases B H NICHOLS *Radiology*, 1935, 25 152

A voluminous pararenal tumor, fibroblastic sarcoma, removal; pre-operative and postoperative pyelography P LE GAC *Bull et mém Soc d chirurgiens de Par*, 1935, 27 352

Advances in renal surgery, with particular reference to nephropexy O S LOWSLEY *J Missouri State M Ass*, 1935, 32 313

Permanent exteriorization of the kidney D CIDDIO *Polichin, Rome*, 1935, 42 sez chir 377

A new method of hemostasis in nephrotomy, a subcapsular encircling suture R H MARTIN and J BRUNETON *J d'urolog méd et chir*, 1935, 39 550

Extravesical opening of a supranumerary ureter R BOUCHARD-POTOCKI and R H MARTIN *J d'urolog méd et chir*, 1935, 39 542

Thrombosed varices of the ureter complicating a urethrocele R. BOURG *Bruxelles-méd*, 1935, 15 1115

A ureteral stone extractor C FERGUSON *J Urol*, 1935, 34 189

Squamous-cell carcinoma, leucoplakia, and concretions in a megaloureter F M COCHEMS and T P GRAUER *J Urol*, 1935, 34 106

Ureteral transplantation, its present status C E TEEL *Northwest Med*, 1935, 34 286

Transplantation of the ureter into the lower large intestine W J STATER *Northwest Med*, 1935, 34 289

Bladder, Urethra, and Penis

Retention of urine F MCG LOUGHANE *Brit M J*, 1935, 1 1115 [550]

Hernia of the bladder and its resection T G KADYROV *Vestn Khir*, 1935, 38 189

Lateral approach for operating upon diverticula of the bladder D R MELEN *Surg, Gynec & Obst*, 1935, 61. 184

End-results of operation for exstrophy of the bladder H MEYER-BURGDORFF *Zentralbl f Chir*, 1935, p 1126

Rupture of the bladder F R HUTCHISON. *Am. J Surg.*, 1935, 20 309

Intra-abdominal ruptures of the bladder G N VELICHKO and N T PETROV *Vestn Khir*, 1935, 38 101.

Simple chronic ulcers of the urinary bladder Report of an unusual case J A LAZARUS *J Urol*, 1935, 34 111.

Sphincter sclerosis in the female H FRIEDRICH 59 Tag d deutsch Ges f. Chir, Berlin, 1935 [551]

Cystography in the diagnosis of tumors of the bladder J O MARTÍ *Rev méd de Barcelona* 1935, 12 21.

Endometriomas of the bladder J PÉLARD and A. ELBIM *J d'urolog méd et chir*, 1935, 30 497 [551]

Ten years' experience with diathermy for papilloma of the bladder J W S LADLEY, M S S LARLAN, and A B WALKER-SMITH *Australian & New Zealand J Surg*, 1935, 5 18

The technique of hypogastric cystostomy S ROLANDO *J d'urolog méd et chir*, 1935, 39 546.

Posterior segmental block-excision of the bladder neck with primary closure S H HARRIS *Brit J Surg*, 1935, 23 45 [552]

Ruptured pyo-urachus complicated by urethral stricture. J A LAZARUS and A A ROSENTHAL *Ann Surg.*, 1935, 102. 40 [552]

A gummosus sclerotic process simulating a tumor of the urachus A N VASILIEV and T E TONKONOGY *Vestn. Khir*, 1935, 38 195

Concerning deficiency and insufficiency of the urethra L FRAENKEL *West. J Surg, Obst & Gynec.*, 1935, 43: 421

Stricture of the external urinary meatus A R. THOMPSON. *Lancet*, 1935, 228 1373 [552]

Ruptured urethra H C HOPKINSON *Lancet*, 1935, 220: 428

Primary neoplasms of the female urethra J G MENVILLE *Surg, Gynec & Obst*, 1935, 61 229.

A safe technique for circumcision H D COGSWELL. *J. Indiana State M Ass*, 1935, 28: 371.

The rôle of the viscosity of the blood in the pathogenesis of priapism M I ROTENBERG. *J d'urolog méd et chir*, 1935, 39 508 [553]

Primary carcinoma of Cowper's gland Report of a case, with a review of the literature C A W UHLE and G. F. ARCHER *J Urol*, 1935, 34 128 [553]

Genital Organs

Prostatic obstruction RENNIE *New Zealand M J*, 1935, 34 234

Experimental hypertrophy and atrophy of the prostate gland D R MCCULLAGH and E L WALSH *Endocrinology*, 1935, 10 466

Atony of the prostate. G MARION. *J d'urolog méd et chir*, 1935, 39 401 [553]

Prostatic resection REAY *New Zealand M J*, 1935, 34 241

The technique of perurethral prostatic resection TREAHY *New Zealand M J*, 1935, 34 253

Transurethral prostatic resection, with a report of 748 cases T M DAVIS *South M J*, 1935, 28 603

Explosive gases formed during electrotransurethral resections B. F HAMBLETON, R W LACKEY, and R. E VAN DUZEN. *J Am M Ass*, 1935, 105 645

The Freyer method of transvesical prostatectomy G. V ARROYO *Rev. mensual, Cirugia*, 1935, 1. 37.

The present status of the prostate problem, with particular regard to the operative technique. F. VOELCKER 59 Tag d deutsch Ges f Chir Berlin, 1935

- Radical perineal proctectomy for carcinoma H C ROZICK *J Urol* 1935 34 210
- A new device to facilitate drainage after endoscopic electrical resection A C DRUMMOND *J Urol* 1935 34 184
- Thrombosis of the pampiniform plexus D McGAVER *Lancet* 1935 120 368
- Leucomatoma of the epididymis. Report of a case and a review of the literature A H SERVACK *J Urol* 1935 34 122
- The rationale of epididymovasectomy in genital tuberculosis H F CAMPBELL *J Urol* 1935 34 134
- The reaction of the testicle to the hormone of the anterior lobe of the hypophysis S P MARI VV and D FERRER *Rev méd de Barcelona* 1935 12 13
- A clinical study of the spermatogenesis of undescended testicles D W MACCOLLUM *Arch Surg* 1935 31 199
- Atrophy of a testis following torsion of the cord A CASINI *Polclin* Rome 1935 42 sez prat 1439
- Perineal testicle complicated by acute epididymitis F W FRANK *Northwest Med* 1935 34 309
- Malignant degeneration in an abdominal testis G RYTTLE and H BERTHA *Arch f klin Chir* 1935 181 242
- The specific malignant testicular tumor seminoma OBERNDORFER *Schweiz med Wchnschr* 1935 3 204 [553]
- Endocrine surgery of the testicle and genital apparatus H BLANC *J de méd de Bordeaux* 1935 122 509
- Vasectomy H STIASNY *Zentralbl f Chir* 1935 p 1111
- Vaso-orchidectomy with interposed spermatichectomy a procedure for the treatment of sterility S F WIEHLER *Arch Surg* 1935 30 967 [554]

Miscellaneous

- The rat's genito-urinary tract. Quantitative measurements of intravesical volume and pressure and of the urethral outflow W H SHULTZ *J Urol* 1935 34 156
- Intravenous urography J E MARCEL *Compt rend Soc franç de gynéc* 1935 5 133
- Intravenous urography in injuries to the genito-urinary tract W J CORCORAN *Radiology* 1935 25 231

- Surgical anuria R G S HARRIS *Med J Australia* 1935 2 175
- Hematuria W J BUTLER *J Michigan State M Soc* 1935 34 479
- Studies on the pathogenic possibilities and elective localization of the bacterium coli in the urinary apparatus F GASPARRI *Ginecologia* 1935 1 784
- The diagnosis and treatment of urinary tract infections R J SILVERTON *Med J Australia* 1935 2 204
- Urinary tuberculosis H LETH *Med J Australia* 1935 2 199
- Tuberculosis of the genito-urinary system C F Bickford *J Missouri State M Ass* 1935 32 316
- Hydatid disease of the genital apparatus V Rutz *Bol Soc de obst y ginec de Buenos Aires* 1935 14 16
- Serological diagnosis of gonococcal infection with GONOKIT M BROUWER *Riforma med* 1935 51 1063
- The treatment of gonorrhea by the general practitioner J W HENRY *J Oklahoma State M Ass* 1935 28 300
- Gonococcal lysol vaccine in the treatment of gonorrhea R BEPTOLOVY *Med lbera* 1935 19 161
- The treatment of urinary infections with a ketogen diet P FAGNIEZ and A FLAHER *J urol med et chir* 1935 12 514
- Osteomyelitis secondary to infections of the genito-urinary tract. A report of three cases H L KAERSCHER and E A ORRILL *J Urol* 1935 34 142
- A self-lubricating cystoscopic stone- or foreign body forceps with detachable handle J SIMONS *J Urol* 1935 34 199
- The racial incidence of ureolithiasis E F REASER *J Urol* 1935 34 148
- Lymphogranuloma inguinale S L GROSMAN *Pennsylvania M J* 1935 35 866
- Pentomitis due to secondary infection of a bubo in lymphogranuloma inguinale W DICK *Beitr z klin Chir* 1935 181 453
- Experiences with carcinoma of the kidney bladder and prostate G ILLEY Orvosi hetil 1935 p 251
- The value of the urea clearance test in urinary surgery E W RUMANS and J D ROBERTSON *Brit J Surg* 1935 23 128
- Impotence and frigidity from the standpoint of psychoanalysis K A MENTHOFER *J Urol* 1935 34 166

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones Joints Muscles Tendons Etc

- Bone growth and repair D B PREMISTEX *Ann Surg* 1935 102 261
- The contribution of arteriography to the differential diagnosis of bone lesions P L FARINAS and J FACLEN *Cirurg ortop y traumatol* 1935 1 89 [555]
- The correction of rachitic deformities by preliminary calcification H FINKELSTEIN *J Bone & Joint Surg* 1935 17 780 [556]
- Electrolytic osteitis F MASMOVETZ *Bull et mém Soc d chirurgiens de Par* 1935 21 338
- Paget's disease and the chlamydia syndrome H A MACHETRON *J E Marquez and C RILLES Rev méd quirurg de patol femenina* 1935 3 670
- Recent studies of osteomyelitis in war BASTOS and D HARCOURT *Actas Soc de cirug de Madrid* 1935 4 129
- Non suppurative osteomyelitis diagnosis and ray treatment J T MITCHELL *South M J* 1935 28 679
- Fibrococcal infestation of bone J RACIL *Beitr z klin Chir* 1935 181 411

- The diagnosis of hydatidosis of bone O IVANOVICH and A S IMTROZZI *Bol y trab Soc de cirug de Buenos Aires* 1935 19 364
- The diagnosis of hydatid cyst of bone ORTIZOVICH and IVANOVICH *Bol y trab Soc de cirug de Buenos Aires* 1935 19 405
- The phosphatase activity of tissues and plasma in tumors of bone C C FRANKLIN and R McLEAN *Am J Cancer* 1935 24 200 [557]
- Schuller-Christian disease or myeloma in young patients HELLNER *Zentralbl f Chir* 1935 p 2300
- Multiple myeloma with hyperproteinemia C F SWELLER *Am J M Sc* 1935 100 145
- The surgery of generalized osteodystrophia fibrosa of Recklinghausen R WANKER *Med Abh* 1935 1 500
- The operative treatment of focal in osteitis fibrosa near joints HERRER *Zentralbl f Chir* 1935 p 1515
- Generalized osteitis fibrosa. Rapid recalcification of bone after complete parathyroidectomy R BROWN *Proc Roy Soc Med Lond* 1935 28 1366
- Malignant changes in the so-called benign giant-cell tumor W B COLEBY *Am J Surg* 1935 21 63 [557]

The effect or reaction of the parathyroid in diffuse metastatic carcinoma of bone BERNARD, BOYER, and GAUTHIER-VILLARS *Presse méd*, Par, 1935, 43 1186

The occurrence of osteochondritis Subchondral bone necrosis J C LEHMANN *Zentralbl f Chir*, 1935 p 1443

Articular changes in hemophilia C E P BUUS *Acta radiol*, 1935, 16 503 [557]

Gonococcal osteo-arthritis with a prolonged course in a child A PATOIR, P DECOULA, and G PATOIR *Rev de chir*, Par, 1935, 54 575

The relation between the growth of bone and tuberculous osteo-arthritis HAVRANEK *Rev d'orthop*, 1935, 42 323

Symmetrical deforming arthritis of the extremities, probably of a tuberculous nature, of the Poncet type J SÉNÈQUE *Bull et mém Soc nat de chir*, 1935, 61 945

Parathyroidectomy in ankylosing polyarthritis G CONTI *Ann ital di chir*, 1935, 14 239 [557]

Unilateral parathyroidectomy as the method of choice in the treatment of ankylosing polyarthritis V V BABUCK *Vestn Khir*, 1935, 38 104

The destruction of epiphyses by freezing R B BENNETT and W P. BLOUNT *J Am M Ass*, 1935, 105 661

Microscopic studies on progressive muscle atrophies, with special regard to the findings in the spinal cord and muscles S WOHLFAHRT and G WOHLFAHRT *Acta med Scand*, 1935, Supp 63 [557]

The differential diagnosis of muscle rupture in the leg J. VOLEMANN *Muenchen med Wchnschr*, 1935, 1 783

The healing of the intervertebral disk after removal of the nucleus pulposus in experimental animals A FILIPPI *Chir d organi di movimento*, 1935, 21 1 [558]

Tuberculosis of the pubic symphysis A PYTEL *Rev d'orthop*, 1935, 42 348

The biceps femoris bursa and sport accidents K VON DIRTICH *Muenchen med Wchnschr*, 1935, 1 620

Pellegrini-Stieda disease secondary to exostosis F d'ALLAINES *Rev d'orthop*, 1935, 42 336

Epiphyseal pseudotuberculosis—osteochondritis juvenilis R HOFFMANN *Rev méd de la Suisse Rom*, 1935, p 321 [559]

Osteogenic sarcoma of the femur M GAMBOA *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 436

Osteogenic sarcoma of the femur PITTE, DÓNOVAN, BRACHETTO-BRIAN, TAMINI, and COPPELO *Bol y trab Soc de cirug de Buenos Aires*, 1935, 19 474

A contribution to the study of suprapatellar rupture of the tendon of the quadriceps femoris muscle C LENTI *Rassegna internaz di clin e terap*, 1935, 16 688

Slipping in apparently healthy knees L KRENN *Chirurg*, 1935, 7 324

Internal derangement of the knee joint W R BRISTOW *J Bone & Joint Surg*, 1935, 17 605

Sequestration of the lateral meniscus L CHIODIN *Bol Soc de cirug de Rosario*, 1935, 2 67

Solid tumor, echondroma of the external meniscus of the knee U GUINARD *Bull et mém Soc nat de chir*, 1935, 61 943

Osteomyelitis of the patella J R MARTIN and N T HORWITZ *Am J Surg*, 1935, 29 287

Tuberculous cysts of the knee joint A E ELLIOTT *Am J Roentgenol*, 1935, 34 209

Volkman's contracture S G JONES *J Bone & Joint Surg*, 1935, 17 640

Congenital club-foot H A SWEETAPPLE *Med J Australia*, 1935, 2 176

The pathogenesis of congenital club-foot O SCAGLIETTI *Chir d organi di movimento*, 1935, 21 25

"Pied forcé" or Deutschlaender's disease A ZEITLIN and I. N. ODESSKY *Radiology*, 1935, 25 215

Deutschlaender's disease A A ZEITLIN and T N ODESSKY *Vestn Khir*, 1935, 38 47

The etiology of Koehler's disease of the navicular bone of the foot J W CAMERER *Deutsche med Wchnschr*, 1935, 1 713

Surgery of the Bones, Joints, Muscles, Tendons, Etc.

Experiences with the maggot treatment of osteomyelitis O SCHUERCH *Helvet med. Acta*, 1935, 2 156

Synovectomy for multiple synovial chondromata J P HOSFORD *Proc Roy Soc Med*, Lond, 1935, 28 1361

The treatment of acute purulent arthritis by joint washing and closure H T JONES *J Bone & Joint Surg*, 1935, 17 559 [559]

The orthopedic treatment of chronic arthritis E JONES *California & West Med*, 1935, 43 125

Dupuytren's disease A BÉVOUL *Rev de chir*, Par, 1935, 54 351 [560]

Suture of a ruptured supraspinatus tendon four days after injury L K FERGUSON *Am J Surg*, 1935, 29 294

The treatment of tuberculosis of the spine in young children E L COMPERE and J T JEROME *Am Surg*, 1935, 102 286

Osteosynthesis in Pott's disease in children I BĂLĂCESCU and I MARIAN *Rev de Chir*, Bucurest, 1935, 38 1

Description of a simplified technique for arthrodesis of the vertebrae L DIAMANT-BERGER *Rev de chir*, Par, 1935, 54 568

Lumbar synostosis P MARIQUE and M E MEYERS-PALGEN *Rev d'orthop*, 1935, 42 315

A modification of the operation for spinal fusion A GRUCA *Ann Surg*, 1935, 102 297

Late results of the operative treatment of osteo-arthritis of the hip joint C M PAGE *Lancet*, 1935, 228 1313 [561]

Results of plastic operations on the acetabulum KOCHS *Ztschr f orthop Chir*, 1935, 62: 311, 1311

Results of plastic operations on the acetabulum A WIEMERS *Ztschr f orthop Chir*, 1935, 62 329

Knee flexion contracture treated by skeletal traction G E HAGGART *Surg. Gynec & Obst*, 1935, 61 239

Synovectomy of the knee for chronic non-traumatic synovitis L H F. WALTON *Proc Roy Soc Med*, Lond, 1935, 28 1365

Disturbances of healing with and without an infectious basis after aseptic operations on the knee K-H MAGOLEY *Deutsche Ztschr f Chir*, 1935, 245 115

A study of the treatment of suppurative arthritis of the knee by puncture J ARNAUD *Presse méd*, Par, 1935, 43 1148

Drainage of the knee joint R PEREYRA and E PALMA *Arch Uruguayos de med, cirug y especial*, 1935 6 531 [561]

The treatment of congenital club feet J H KITE *Surg, Gynec & Obst*, 1935, 61 190

Fractures and Dislocations

Fractures and their treatment E BAUMANN *Helvet med Acta*, 1935, 2 190

A compression instrument for the treatment of fractures BIRKENFELD *Chirurg*, 1935, 7 351

Experiences with the extension treatment of fractures H KILLIAN *Arch f klin. Chir.*, 1935, 182 159

The results of thirty-seven cases of bone graft R K THOMLEY and R J MPOZ *Cirug ortop y traumatol*, 1935, 3 61

- A simple method of osteosynthesis. M. RICHARD
Helvet med Acta 1935 2 211
- The treatment of acromioclavicular dislocation J
FARILL. Mel rev mexicana 1935 16 323
- Permanent replacement of the shoulder in the correct
position in the treatment of fracture of the clavicle
BOGGER. Presse méd Par 1935 43 12 6
- Experiences in the treatment of supracondylar fractures
of the arm F. KLAGES. Chirurg 1935 7 361
- A new type of aeroplane splint for the upper extremities
O. R. MAROTIOLI. Bol Soc de cirug de Rosario 1935 2
109
- The mechanism of fracture of the great tuberosity of the
humerus A. BILLI. Chir d organi di movimento 1935
21 10
- A new type of fracture of the elbow BRAVO and MON
SALVO. Arch de med cirug y especial 1935 16 456
- Non-operative treatment of fractures of the bones of the
forearm V. MOONEY. Am J Surg 1935 29 268
- Surgical treatment of isolated forward luxation of the
lower end of the ulna L. BALY and M. GALTIER. J de
chir 1935 43 868 [567]
- Colles fracture M. H. TODD. Virginia M Month
1935 61 282
- Lateral dislocation of the wrist joint. report of a case of
radiocarpal dislocation of the radial side R. K. PACKARD
and J. D. KIESBAUM. Arch Surg 1935 31 266
- Fracture of the (navicular) carpal scaphoid E. K.
CRAVEN. New York State J M 1935 25 801
- Isodactro is of the first phalanx of the right thumb
G. M. GIULIANI. Chir d organi di movimento 1935 21
35
- Bilateral fracture of the first rib H. BITTERSORF. Arch
f orthop Chir 1935 35 311
- Irreversible atlanto-axial dislocation F. A. KAHY and
L. J. CLESIA. J Am M Ass 1935 103 343
- Fractures of the bodies of the vertebrae K. SZED. Ann
Surg 1935 102 102 [562]
- Reduction of fractures of the vertebral column. J. P.
GRINDA. Presse méd Par 1935 43 1257
- Fracture of the first lumbar vertebra late symptoms

- the Albee graft late results GRICHARD and LACHRY
Rev d orthop 1935 41 343
- Two cases of congenital dislocation of the hip occurring
in the same family B. W. HOWELL. Proc. Roy Soc Med
Lond 1935 28 1365
- Congenital dislocation of the hip in a nine year-old child
reduction after traction with a Kirschner wire operation of
Nové Jo second result at the end of a year P. LOWSARO
Bull et mém. Soc nat. de chir 1935 61 928
- Fractures of the hip W. R. ROCKES. Internat J Met
& Surg 1935 43 27
- The operation of Foenig in old dislocations of the femur
A. N. SPIRIDONOV. Vestn Khir, 1935 38 194
- Fracture of the epiphysis of the lesser trochanter of the
femur S. M. FITCHET. New England J Med 1935 213
313
- Masked fracture of the neck of the femur A. AALEJAK
Ugesk f Læger 1935 p 321
- Treatment of the fractured neck of the femur by anal
fixation with steel wires D. R. TELSON and V. S. RARSON
J Bone & Joint Surg 1935 17 727 [563]
- Late results of treatment of fractures of the shaft of the
femur treated by open and orthopedic methods ACVAY
Bull et mém. Soc nat. de chir 1935 61 935
- Volkmann's dislocation and biliary arthritis of the
knee V. DI FRANCO. Semana méd 1935 41 109
- Thirty two cases of open fractures of the leg I. HERT
J de chir 1935 46 202
- Percussion treatment of fractures of the leg with de
layed union A. M. RECHTMAN. Am J Surg 1935 24
290
- Fracture of the intercondylar spine A. GUSCHIK. Beitr
z klin Chir 1935 161 451
- Old ununited fracture of the tibia with overgrowth of the
fibula. S. A. S. MALKIN. Proc Roy Soc Med Lond
1935 28 1362
- Osteotomy of the well-consolidated fibula in the treat
ment of non union of fracture of the tibia H. RECHIK
Chir d organi di movimento 1935 21 21
- Fractures of the os calcis. C. C. GREEN. Texas State
J M 1935 31 270

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels

- Recent advances in the treatment of peripheral vascular
diseases M. R. REYN. Ohio State M J 1935 31 577
- The conservative treatment of vascular spasm in periph
eral vascular disease I. STARR JR. Pennsylvania M J
1935 8 848
- A biological method of checking external capillary hem
orrhages S. A. FREIDENBERG and L. N. KNJASEVA
Soviet Khir 1935 3 10
- The treatment of varices of the lower extremities C.
CARONIS. Rev méd de Rosario 1935 25 556
- The treatment of varicose veins and ulcers C. E.
ROBINSON. J Med Ass Georgia 1935 24 293
- Ligation of varicose veins L. K. FERGUSON. Ann
Surg 1935 102 304
- The in action treatment of varicose veins G. H. COLE
I. S. W. RAMSAY and M. M. MORRISON. Brit M J
1935 2 49 [564]
- Chronic leg ulcer and its treatment E. FISCHER
Muenchen. med Wchnsch 1935 1 700
- Arteriovenous aneurysm and asystole W. T. FORTNER
TODMAN and C. ALVARE. Rev méd de Rosario 1935 25
599

- A new method of treating phlebitis J. LICHTENBERG
and O. KOTIN. Cas lek Cesk. 1935 p 528
- Modern methods of diagnosis and treatment of oblitera
tive arteritis of the lower extremity P. E. VAN DER LINDEN
Rev belge d sc méd 1935 7 353
- Two cases of thrombophlebitis migrans A. B. WATKIN
Glasgow M J 1935 1 4 66
- Thrombophlebitis of the inferior vena cava and the por
tal vein R. JUTENACHER. Presse méd, Par 1935 43
1175
- Primary thrombosis of the axillary vein. an anatomical
and roentgenological study of certain etiological factors
and a consideration of venography as a diagnostic meas
ure J. R. VYAL and E. M. McFETTERIDGE. Arch Surg
1935 31 271
- Thrombo-angiitis obliterans J. B. McDONNELL and
J. H. CRAWFORD. Lancet 1935 230 366
- The clinical picture and pathological histology of Buer
ger's thrombo-angiitis T. S. LINDENBAUM and L. M.
KAPITZA. Voen Khir 1935 38 13
- Thrombo-angiitis obliterans (Buerger) M. Treatment
of 543 cases by repeated intravenous injections of hyper
tonic salt solution. experience of ten years S. SHIBUYA
Surg. Gynec & Obst 1935 61 314

A contribution on arterial obliterations. The importance of arteriography in surgical diagnosis and treatment. J. BALOGHARTNER. *Deutsche Zeitschr f. Chir.*, 1935, 241, 339 [565]

Blood; Transfusion

The factors M and N of human erythrocytes and their practical importance. N. T. BIRNOV. *Vestn Khir.*, 1935, 38, 114

The life saving effect of ovarian preparations in severe hemorrhage in a hemophilic. K. FRANK and S. LITZNER. *Med. Klin.*, 1935, 1, 520

Blood transfusion in septic diseases. A. A. KRAMARENKO. *Vestn Khir.*, 1935, 38, 123

Blood transfusion for surgical diseases. I. VON SZACSVAY. *Beitr. z. klin. Chir.*, 1935, 161, 480

Blood transfusion into the corpus cavernosum of the penis. SILVA. *Vestn Khir.*, 1935, 38, 105

Immunotransfusion in acute peritonitis. C. D. GURTFERO. *Rev. de chir., Hospital Juarez, Mex.*, 1935, 6, 445

Mistakes, dangers, and unforeseen complications of blood transfusion as revealed by a study of 1,300 cases. E. HESSER. *Ergeb. d. Chir.*, 1934, 27, 105 [566]

A non specific protein reaction following blood transfusion and its prophylaxis. A. N. FILATOV, N. T. BIRNOV, and M. E. DEFF. *Vestn Khir.*, 1935, 38, 141

On the transfer of infections through blood transfusion. T. M. BECHMAN. *Acta chirurg. Scand.*, 1935, 70, 615 [567]

Syphilis following blood transfusion. R. ROSSI and R. L. ROMERO. *Rev. Assoc. med. argent.*, 1935, 40, 685

The toxic action of heterogenous blood. T. R. PETROV and L. G. BOGOMOLOVA. *Vestn Khir.*, 1935, 38, 158

New observations upon the destruction of syphilitic virus in conserved blood. P. G. OLANESJAN, L. S. ZALKIND, and V. T. KUDRYAVTSEVA. *Vestn Khir.*, 1935, 38, 132

A study of the occurrence of malaria plasmodium in conserved blood. G. P. RUDNIV and V. D. ANCHELTVITCH. *Vestn Khir.*, 1935, 37, 119

Hemolysis in cadaver blood. L. G. BOGOMOLOVA and A. D. KARTALOVA. *Vestn Khir.*, 1935, 38, 153

The clinical use of conserved blood. Y. M. TIGLER, Z. S. SOSONKIN, and A. S. MATILEVA. *Vestn Khir.*, 1935, 38, 157

The use of universal blood donors in clinical practice. I. R. MISSE. *Vestn Khir.*, 1935, 38, 170

Lymph Glands and Lymphatic Vessels

Subacute leukemic lymphadenosis with atypical symptoms and course. G. DE BONIS. *Policlin.*, Rome, 1935, 42, sez. prat. 1537

An unusual location of a cystic lymphangioma in a girl. U. OSTI. *Ann. ital. di chir.*, 1935, 14, 377 [567]

The diagnostic importance of splenic puncture in different types of malignant lymphogranuloma. E. SPORIT. *Riforma med.*, 1935, 51, 770

SURGICAL TECHNIQUE

Operative Surgery and Technique; Postoperative Treatment

The importance of electrosurgery. F. MANDEL. *Arch. ital. di chir.*, 1935, 60, 433

A method of replacing skin. LAGARDE. *Bull. et mem. Soc. d. chirurgiens de Par.*, 1935, 27, 359

Tubular skin grafts in plastic surgery. M. CORACHAN. *Rev. de chir. de Barcelona*, 1935, 5, 36

Plastic surgery of the hand. F. BURIAN. *Rozhl. Chir. a Gynaek. Chir.*, 1934, 13, 252 [568]

Methods of using the Reverdin grafts. W. EHRT. *Muenchen med. Wehnschr.*, 1935, 1, 669

Operative infection and total sterilization. GUDIN. *Bull. et mem. Soc. nat. de chir.*, 1935, 61, 994 [568]

A modified type of siphon drainage apparatus on the Manotte principle. H. M. BARKS and M. N. HADLEY. *J. Indiana State M. Ass.*, 1935, 28, 381

The treatment, without dressings, of patients operated upon. T. F. BERESIN. *Vestn Khir.*, 1935, 38, 179

Changes in body temperature following operation under local anesthesia. E. HUNOLD and H. LOEBELL. *Med. Klin.*, 1935, 1, 514

Postoperative pulmonary complications. W. S. MIDDLETON. *J. Iowa State M. Soc.*, 1935, 25, 427

The prophylaxis of postoperative pulmonary complications. B. CAPALDI. *Arch. ital. di chir.*, 1935, 60, 475

The prevention of postoperative thrombosis and embolism. R. FRAUENDORFER. *Wien. klin. Wehnschr.*, 1935, 1, 398

The increased frequency of thrombosis and embolism following the war. R. ROESSLE. *Sitzber. preuss. Akad. Wiss., Physik.-math. Kl.*, 3/4, 87

Postoperative thrombosis and embolism. E. RANZI and P. HUBER. *Wien. klin. Wehnschr.*, 1935, 1, 389 [569]

Experimental studies on thrombosis. USHIRO. *Deutsche Zeitschr. f. Chir.*, 1935, 245, 16

Postoperative embolism. R. STICH. 59 Tag d. deutsch. Ges. f. Chir., Berlin, 1935

Postoperative embolism. B. LUNARDI. *Arch. ital. di chir.*, 1935, 40, 237

Nitrogen retention and hypochloremia following operation. K. FRANKE and ST. LITZNER. *Med. Klin.*, 1935, 1, 614

Four cases of contralateral phlebitis following operation on the right side of the abdomen. V. BERNABEO. *Riforma med.*, 1935, 51, 1093

Progressive postoperative gangrene of the skin. A. J. BLAXLAND. *Brit. M. J.*, 1935, 2, 336

A bacteriological study of the skin of patients operated upon. A. P. TANOVSKAYA. *Vestn Khir.*, 1935, 37, 159

Antiseptic Surgery; Treatment of Wounds and Infections

Severe traumatic injuries and complications with complete recovery. A. H. PORTER. *Internat. J. Med. & Surg.*, 1935, 48, 255

Office treatment of minor injuries. S. R. MILLER. *Internat. J. Med. & Surg.*, 1935, 48, 270

Automobile injuries and comparative death rates, with some suggestions as to their treatment in traumatic surgery. C. W. STREAMER. *Colorado Med.*, 1935, 32, 612

Aniline-pencil injuries. J. BRAVO and D. CANEDO. *Actas Soc. de chir. de Madrid*, 1935, 4, 177

Phlegmon of the hand. J. H. LYONNET and S. GORSTAGUE. *Rev. Assoc. med. argent.*, 1935, 49, 680

The present status of the treatment of severe burns. L. GUBERN-SALISACHIS. *Rev. de chir. de Barcelona*, 1935, 5, 325 [571]

Bullet embolism. R. D. BAKER. *Am. J. Surg.*, 1935, 29, 282

Cod-liver-oil treatment of wounds. J. P. STEEL. *Lancet*, 1935, 229, 290

The treatment of carbuncle by freezing with carbon dioxide snow experimental and clinical observations H G SEIFERT 1935 Muenster i W and Düsseldorf Dissertation

The early incision of inflammatory lesions E ECHALAZ Rev mexicana de cirug ginec y cáncer 1935 3 404

Serious hand infections L I GAMBER West J Surg, Obst & Gynec 1935 43 449

The leucocyte blood pictures in surgical types of infection D A ROBERTS South M J 1935 28 714

The prevention of tetanus Active immunization by vaccination or passive immunization by the use of serum? L BAZY Bull et mém Soc nat de chir 1935 61 714 [571]

Antitetanus vaccination FREDER Bull et mém Soc nat de chir 1935 61 902

Anesthesia

Analgesic therapeutic methods accessible to anesthetists A M DOGLIOTTI Anes & Anal 1935 14 150

Individualized anesthesia R MALLETTS J Michigan State M Soc 1935 34 463

Anesthesia in office practice T HESSE Deutsche med Wchnschr 1935 1 671

The failure of intravenous hydrochloric acid to shorten anesthesia F W KINARD and J VANDE PRYE Am J M Sc 1935 190 242

The effect of various hydrogen ion concentrations on the water absorption and elimination of frogs during ether anesthesia H W NICKO Anes & Anal 1935 14 169

Indications for oxygen therapy in respiratory diseases J H EVANS and C J DUNSHORPWE Anes & Anal 1935 14 162

Experiences with eunarcon in minor gynecological procedures VOELCKER Muenchen med Wchnschr 1935 1 659

Self administered analgesia for the multiparity of general practice R J MINNITT Anes & Anal 1935 14 172

Cyclopropane a new and valuable gas anesthetic L F SISE P D WOODBRIDGE and U H EVERSORE New Eng land J Med 1935 213 303

Anesthesia induced with cyclopropane and ethylene B N CALCAGNO Bol y trab Soc de cirug de Buenos Aires 1935 19 469

The reticulo endothelial system of the lung in ether and chloroform anesthesia A FILIPPET Ann ital di chir 1935 14 271

The secretion of mucus in the trachea and bronchi in relation to ether and chloroform anesthesia P BETTA Arch ital di chir 1935 40 115 [113]

The blood sugar level in relation to the action of pain reliever and of ether anesthesia MERLINO Arch di ostet e ginec 1935 4 50 [572]

The technique of combined ethyl chloride and avertin basic anesthesia H LESSING Schmerz 1935 8 25

Premedication in general anesthesia W I T HOTTEN Med J Australia 1935 2 5

The administration of nitrous oxide-oxygen and ethylene oxygen H J DALY Anes & Anal 1935 14 145

A new inhalation narcotic vinethen W BAETNER 59 Tag d deutsch Ges f Chir Berlin 1935

Considerations and chemico-clinical studies regarding intravenous anesthesia induced with a new barbiturate preparation L SALVI Clin chir 1935 11 575

The intravenous use of scopolamin-ekadalepheton anesthesia D PHILIPPOFFS Chirurg 1935 7 451

Spinal anesthesia C DANIEL Gynec obstet 1935 10 167

Eight hundred spinal anesthetics according to Howard Jones method F TREMPER Canadian M Ass J 1935 35 167

Modification of the Jones method of spinal anesthesia A VALERIO Semana med 1935 42 285

High temperatures following the use of Jones solution of nupercain in spinal anesthesia T A JOSE Anes & Anal 1935 14 191

Spinal anesthesia induced with Pantocain L F AMICI Clin chir 1935 11 667

A case of bowel paralysis following spinal anesthesia. MORALES Rev de cirug de Barcelona 1935 5 42

Our experiences with peridural anesthesia induced by the method of Dogliotti P DETZ Schmerz 1935 8 7

Premedication for local anesthesia C F CORLETTE Med J Australia 1935 2 1

The use of s ovaire for local anesthesia A L FELDMANN Vestn khir 1935 38 178

Evipal as an adjunct to regional anesthesia H LIENH Anes & Anal 1935 14 159

PHYSICOCHEMICAL METHODS IN SURGERY

Röntgenology

The value of X ray examinations in industrial surgery J T MCKINNEY Virginia M Month 1935 62 28

A photomicrometric study of certain lines appearing in roentgenograms L GALLATREY Radiol med 1935 22 641 [573]

The dangers of roentgenoscopy and methods of protection against them VI Some studies of the doses received by the body of the examiner E I L CILLEY E T IEDON, and B R KIRKLEY Am J Roentgenol 1935 34 241

Roentgen chymography P CIOVOLINI Radiol med 1935 22 791

Indications and projections for teleroentgenograms in craniology L BRUNETTI Radiol med 1935 22 673 [573]

The esophagus in disease of the heart and aorta a case report with roentgen and postmortem findings J B SCHWEDER and E B GUTMAN Am J Roentgenol 1935 34 164

A new simple and compact X ray meter C N ROCKY Brit J Radiol 1935 8 481

A portable direct reading X ray dosage rate meter G W C KAYE and G E BELL Brit J Radiol 1935 8 467

The effect of certain alkaloids irradiated with the X rays or ultraviolet rays G BECCINI Radiol med 1935 22 609

The rôle of roentgen ray wave length in skin tolerance P C HODGES A BRONSCWIG and S P LEBBY Am J Roentgenol 1935 34 234

The present status of radiation therapy E S LAIN and M M ROLAND J Oklahoma State M Ass 1935 38 285

Grenz ray therapy of internal diseases G BECKY Med Jec New York 1935 142 100

Roentgen therapy in hyperplastic blood dyscrasias a new technique for myeloid and lymphatic leukemia polycythemia rubra vera and Hodgkin's disease H LANGER Am J Roentgenol 1935 34 214

Roentgen therapy in inflammatory diseases I SOLOMON and P GIBERT Presse méd Par 1935 43 1231 [573]

Observations on the roentgen pathology of the ethmoid, labyrinth, and sphenoid sinuses D L PALMER *Am J Roentgenol*, 1935, 34, 151. [573]

The distribution of roentgen radiation within the average female pelvis for different physical factors of irradiation A N ARNOLD and E H QUIMBY *Radiology*, 1935, 25, 182. [574]

The use of composite filters in X-ray therapy C E EDDY and J O'SULLIVAN *Med J Australia*, 1935, 2, 255.

The management of roentgen sickness G W HOLMES and I T HUNTER *New England J Med*, 1935, 213, 308.

The application of grelin for roentgen sickness H KAWAKAMI and K KOKINAMI *Jap J Obst & Gynec*, 1935, 15, 345.

Irradiation ulcer treated and cured by periarterial sympathectomy G BAUDIT *Bull et mém Soc nat de chir*, 1935, 61, 991.

Miscellaneous

The present-day rôle of physical therapy in medicine A J KOTKIS *J Missouri State M Ass*, 1935, 32, 329.

The value of galvanic waves with long alternating periods F. ARCE and M. ARCE *Medicina*, Madrid, 1935, 6, 60.

The effect exerted by the high-frequency current on the healing of wounds F. PAGLIANI *Ann ital di chir*, 1935, 14, 423.

A solarium for heliotherapy. P M MEHTA *Practitioner*, 1935, 135, 237.

MISCELLANEOUS

Clinical Entities—General Physiological Conditions

Hereditary onychial dysplasia M E HOBBS *Am J M Sc*, 1935, 190, 200.

Plomental sinus: an explanation of its embryological development M. GAGE *Arch Surg*, 1935, 31, 175.

Permanent fixation of both thumbs in an infant L J JEMTEL *Bull et mém Soc nat de chir*, 1935, 61, 905.

The treatment of nevus flammeus with a pomade containing radium emanation P KRONENBERGER *Rassegna internaz di clin e terap*, 1935, 16, 646.

Cutaneous horn of the scalp H CHARACHE *Am J Surg*, 1935, 29, 297.

Infective warts and their treatment L M GHOSH and P A MAPLESTONE *Indian M Gaz*, 1935, 70, 441.

The biological treatment of wounds C HEMPEL *Muenchen med Wchnschr*, 1935, 1, 88.

The fate of foreign bodies in the organism: An experimental and clinical study F T VALKEP *Vestn Khir*, 1935, 38, 27.

Studies of the vasomotor reaction in normal and pathological conditions A HUSTIN *Lyon chir*, 1935, 32, 385.

The pre-operative and postoperative lipoids of the blood V JURA *Clin chir*, 1935, 11, 640. [575]

A study of the humoral variations following trauma and operative shock, the blood calcium L DI NATALE and M TABANELLI *Arch ital di chir*, 1935, 40, 39.

Arteriography during the course of anaphylactic shock in the rabbit VALLERA-RADOT, LEDOUX-LEBARD, HAMBURGER, HUGO, and CALDERON *Presse méd*, Par, 1935, 43, 1057. [575]

The syndrome of anemia, glossitis, and dysphagia W B HOOVER *New England J Med*, 1935, 213, 394.

Experimental air embolism J B WOLFE and H F ROBERTSON *Ann Int Med*, 1935, 9, 162.

The treatment of tetany and the value of ammonium chloride for this purpose J COUTUPAT *Presse méd*, Par, 1935, 43, 1228.

The relation of experimental skin infection to carbohydrate metabolism. The effect of hypertonic glucose and sodium chloride solutions injected intraperitoneally D M PILLSBURY and G V KULCHAR *Am J M Sc*, 1935, 190, 169.

Infectious gangrene of the skin due to bacterial synergism, with particular reference to noma and postoperative cutaneous gangrene N F HICKEN *Arch Surg*, 1935, 31, 253. [576]

The immediate results of novocain infiltration of the lumbar sympathetic for postoperative and varicose phlebitis, five new cases J KUNLIN and E LUCIVESCO *Bull et mém Soc nat de chir*, 1935, 61, 965.

A clinicostatistical study of 1,950 cases of poliomyelitis A BONOLA and F FERRICONE *Chir d organi di movimento*, 1935, 21, 65.

Cardiovascular complications of trichinosis W W SRYKE *Arch Int Med*, 1935, 56, 238.

A department for hydatid disease research and prevention BARNETT *New Zealand M J*, 1935, 34, 258.

Echinococcus cysts, case reports M D'AGOSTINO *Arch ital di chir*, 1935, 40, 277.

Ectopic bilharziomas. Experimental bilharziasis and the hepatic stage of the bilharzial parasite in man A DIAMANTIS *J d'urol méd et chir*, 1935, 39, 308. [578]

Ulcer serpens K G PARKS *J. Oklahoma State M Ass*, 1935, 28, 291.

Hospital gangrene F HOHMEIER *Zentralbl f Chir*, 1935, p 1002. [576]

Cold abscess of the iliac muscle. J J BERETERVIDE, A J HEIDENREICH, and G L HEIDENREICH *Arch argent de enferm d apar digest.*, 1935, 10, 361.

Paralysis of the anal sphincter in abscess of the cave of Douglas MURATA *Deutsche Ztschr f Chir*, 1935, 245, 165.

Agranulocytosis A S WALKER *Med J Australia*, 1935, 2, 133.

The etiology of lymphogranuloma inguinale R DE OTTO *Rassegna internaz di clin e terap*, 1935, 16, 532.

The frequency of tumors in the hospital of Kaluga T A VASOVITCH *Vestn Khir*, 1935, 38, 101.

Trauma and tumors L SILVESTRINI *Chir d organi di movimento*, 1935, 21, 36.

Multiple cutaneous tumors implanted on varicosities D DONATI *Riforma med*, 1935, 51, 865.

The comparative rate of tumor induction by tar in the mouse at different sites in the skin J W ORR *J Path & Bacteriol*, 1935, 41, 51.

Multiple endotheliomas of the skin with metastasis, report of a case W. W. ROBINSON *Radiology*, 1935, 25, 82.

A case of unusual localization of atheroma F. A AGAFONOV *Sovet Khir*, 1935, 2, 121.

Pediculated fibrochondroma of the chin D BRUN *Bull Soc d'obst et de gynéc de Par*, 1935, 24, 402.

Diffuse lipoma of the right upper extremity Prolan A and B yielded by bio-assay of fat D Lewis and C F. GESCHICKTER *Ann. Surg*, 1935, 102, 154.

Sacrocoecal teratoma Report of a case of double tumor in a newborn infant R R PENNER and F GOOD-SITT Am J Cancer 1935 24 617

The modern diagnosis of malignancy W MOLLOW Clin bulgar 1935 7 1

An experimental study of the effect of thyroid function on the growth of malignant tumors I The effects of thyroidectomy and the administration of thyroid preparations on the growth of transplanted tumors II The influence of thyroid function on the result of X ray irradiation of malignant tumors III The effect of irradiation of the thyroid on the growth of tumors IV Morphological changes in the thyroid of animals transplanted with sarcoma V The effect of thyroidectomy and the growth of transplanted tumors on the discharge of iodine into the urine VI The effect of the growth of transplanted tumors on the quantity of iodine in the thyroid gland S NISIZAWA Jap J Obst & Gynec 1935 18 195

The significance of abnormal mitosis in the development of malignancy W MENDELSON Am J Cancer 1935 24 626

The treatment of advanced malignant disease L S ALSTER Radiology 1935 25 207

An investigation of the value of lead compounds in the treatment of malignant tumors M DARNOW Am J Cancer 1935 24 531 [577]

General Bacterial Protozoan and Parasitic Infections

Pyogenic general infection and its treatment E I EVER 1935 Stuttgart Enke [577]

Gas bacillus infection A V MELNIKOV Vestn Khir 1935 38 3

Ductless Glands

Clinical and etopathogenic study of acrocyanosis with particular reference to endocrine and constitutional factors G BATTISTINI Policlin, Rome, 1935 42 sez med 490

The effect of parathyroid extract upon the serum calcium of nephrectomized dogs R LILSWORTH and F H FETTER Bull Johns Hopkins Hosp Balt 1935 57 91

Parathormone and nephritis C LOBO-ONELI H CASARETER and F LPLU Bruxelles-med 1935 15 1100

Indications for parathyroidectomy R WANKE Muenchen med Wchnchr 1935 1 637 Zentralbl f Chir 1935 p 1141

Parathyroidectomy for condyloarthrits ankyropetia OENLSCHEP Zentralbl f Chir 1935 p 1142

The relation of diet and serum-calcium to tetany in the parathyroidectomized rat M M HOSKIN Endocrinology 1935 19 453

The relation of contracture and tetany to experimentally produced calcium deficiency in cats with and without lesions of the cortical motor areas H C COOMBS F H PIKE and D S SEARLE Endocrinology 1935 19 422

The relationship between the suprarenal gland cortex and the sex glands S THADDEA Ztschr f Geburtsh u Gynaek 1935 110 225

The effect of injection of residual ovarian extracts H W MARLOW and F GROETSEMA Endocrinology 1935 19 415

Studies in thrombo-angitis obliterans (Buerger's) X Reduction in the blood volume following bilateral oophorectomy M FRIEDLANDER N LASKY and S SILS Jr Endocrinology 1935 19 461

Effects of pregnancy urine administration to female swine E I TSCHEKHOZATON KAJA Endocrinology 1935 19 413

The effect of decidua on the breast, ovary uterus and hypophysis A TOMMASOLI Riforma med 1935 51 830
Castration atrophy and theelin The effect of theelin on atrophic uteri of castrated albino rats B I ROSTKOV and W C LANGSTON Endocrinology, 1935 19 441

Surgical Pathology and Diagnosis

The erythrocyte sedimentation rate G E BRACKWENT and J W MAYCRICK Lancet 1935 229 19

The diagnosis of hydatidosis of bone FRET Bol ytrab Soc de chir de Buenos Aires 1935 19 371

The results of examination for tubercle bacilli in specimens of pus and tissue from patients with extra pulmonary tuberculosis E HUSTED Acta chirurg Scand 1935 76 589

Experimental Surgery

Experimental observations on the effect of 9 per cent oxygen on the absorption of air from the body tissues J FINE S FRUHLIN and J A STARR J Thoracic Surg 1935 4 613

Hospitals Medical Education and History

The teaching of roentgen anatomy in medical high schools M TROFAYEV Nov Khir Arkh 1935 33 280

The teaching of operative surgery and topographic anatomy in medical high schools F T VALKEE Vestn Khir 1935 37 154

The method of teaching war surgery L BARNSTEIN A BASSAY and S LITVAK Nov Khir Arkh 1935 33 438

SUBJECT INDEX

- ABDOMEN**, Problem of draining, in general peritonitis, 21, causes of deaths after operations on, at surgical clinic at Klausenburg in period from 1922 to 1932, 177, liposarcoma in, with ovarian metastases, 183, pain in, in children, 347, zinc peroxide in treatment of chronic, ulcerative, burrowing, non-gangrenous lesions of wall of, apparently due to micro-aerophilic hemolytic streptococcus, 384, getting patient out of bed early after surgery of, 468, pain in, as symptom of disease of brain, 523, subphrenic abscess, 542, cystic lymphangioma of wall of, 567
- Abortion**, Infarction and gangrene of uterus after, 144, Elliott treatment of pelvic inflammation following, 148; anuria with spastic phenomena after, treated by decapsulation and chlorine replacement, 153, induction of, with estrin, 153, treatment of, in presence of non-venereal infectious processes in genitalia, 253
- Abscess**, Subphrenic, 542 *See also* names of organs
- Acetabulum**, Injuries involving ilium and, 171, Otto's disease and other forms of protrusion of, 376
- Acromegaly**, 480
- Acromioclavicular dislocation**, Apparatus for non operative reduction of complete, 58
- Actinomyces**, Recent findings of research on, 283
- Addison's disease**, Pituitary gland in, 43
- Adrenal**, *See* Suprarenal
- Adrenalin**, *See* Epinephrin
- Allergy**, Part played by, in predisposing mucous membrane of nasal passages and paranasal sinuses to infection and its bearing on treatment on disease of these cavities, 427
- Amebiasis** and its surgical complications, 389
- Amenorrhea**, Associated with bilateral polycystic ovaries, 35; nature and treatment of menstrual dysfunction in disorders of personality, 252, treatment of, with large doses of estrogenic hormone, 354
- Amino-acids**, Curve of, in blood as criterion of hepatic function in pregnancy, 38
- Amputation**, Prognosis of crushing injuries of extremities treated by, 68, of lower extremity and artificial limbs, 270, source of pain in stumps in relation to rational treatment, 272, interinnomino-abdominal (hind-quarter), 376
- Amygdaloid cysts** of neck, 323
- Amyl nitrite**, Contraction ring of uterus in labor relieved with, 155
- Anaerobic bacteria**, Significance of, in peritonitis due to liver autolysis, 20, in etiology of puerperal diseases, 41
- Anemia**, Esophageal lesions in dysphagia with, 242, hemolysis during pregnancy, 359
- Anesthesia**, Postoperative pulmonary complications in relation to, 68, problems in hydrodynamics of analgesics in subarachnoid fluid of man, 70, diazotized novocain in artificial dural sacs, 70, induced with combined tribromethanol and nitrous oxide-oxygen, 71, hepatic function in relation to, in surgical affections in general and diseases and drainage of biliary tract, 248, tracheo-bronchial aspiration of buccopharyngeal secretion during ether, 281, fatalities in pericain, 284, pyramidal syndrome following spinal, 386, vinethen, 472, secretion of mucus in trachea and bronchi in relation to ether and chloroform, 571, blood-sugar level in relation to pauneyrol and ether, 572
- Aneurismographs** made with thorotrast, 174
- Aneurisms**, revealed in roentgenographic study of peripheral arteries after injection of radiopaque substance, 61
- Angioblastic meningiomas**, 432
- Angioid streaks**, Ophthalmological studies in cases of, 4
- Angioneurotic edema**, Surgical importance of, 75
- Antrum of Highmore**, *See* Sinus
- Antuitrin-S**, *See* Hormone
- Anuria**, Postabortive, with spastic phenomena treated by decapsulation and chlorine replacement, 153
- Anus**, Fistula of, in relation to perianal intramuscular glands, 141
- Aorta**, Study of esophagus in relation to, 73
- Apicolysis**, Surgical treatment of pulmonary tuberculosis by, 331, thoracoplasty with extrafascial, 434
- Apoplexy**, Uteroplacental, 358
- Appendicitis**, 140, mesenteric lymphadenitis simulating acute, 22, review of statistics on, for two decades, 140, causes of deaths after operations for, at surgical clinic at Klausenburg in period from 1922 to 1932, 177, abdominal pain in children due to, 347; roentgenological diagnosis of diseased appendix, 538, changes in gastric function in relation to, 539
- Appendix**, Roentgenological diagnosis of diseased, 538
- Arm**, Prognosis of crushing injuries of, 68; symptoms in, of workmen using compressed air tools, 266, 282; so-called "traumatic thrombosis" of, 467, accidents to, 470
- Arterectomy** combined with unilateral removal of suprarenal capsule in endarteritis obliterans of extremities, 279
- Arteries**, Of long bones of man, 49; roentgenographic study of peripheral, of living subject following injection of radiopaque substance, 61, vasomotor action and dangers of contrast media used in arteriography, 62, contrast media and mechanical factors used in arteriography, 62, disease of peripheral, 173, embolectomy on, 174, results of total obstruction of, 465; obliterations of, and gangrene of limbs, 467, arteriography in diagnosis and treatment of obliterations of, 565
- Arteriography**, Of peripheral arteries of living subject following injection with radiopaque substance, 61; vasomotor action and dangers of contrast media used in, 62, contrast media and mechanical factors used in, 62, indications for, in study of arteritis, 174; in differential diagnosis of bone lesions, 555, importance of, in surgical diagnosis and treatment of arterial obliterations, 565, during course of anaphylactic shock in rabbit 575
- Arteriosclerosis** revealed by roentgenographic study of peripheral arteries after injection with radiopaque substance, 61
- Arteritis**, Of subacute malignant endocarditis, 62, indications for arteriography in study of, 174, tuberculous, 278
- Artery**, Post-traumatic thrombosis of carotid, 379, bronchiectasis and thrombosis of bronchial 456; results of total obstruction of femoral, 465, experimental study of anastomoses of carotid, with subclavian, 466, injuries of middle meningeal, 524
- Arthritis**, Joint thermometry in, 51, evaluation of roentgen findings in gonorrheal, 52, chronic syphilitic, 52; para-

- thyroidectomy in ankylosing 557 treatment of acute purulent by joint washing and closure 559 See also names of joints
- Arthrodesis Resection in tuberculous contus in adult 56 transverse wedge for pain in rigid flat foot 2,3
- Artificial pneumothorax Pleural eosinophilia in 132 treatment of giant cavities by 119
- Asthma Treatment of bronchial by dorsal sympathectomy 526
- Atelectasis As postoperative complication 67 68 105, 469 vascular changes in experimental 131 situation of pleural exudate in obstructive, 130
- Atlanto axial dislocations una associated with trauma and secondary to inflammatory foci in neck 377
- Axillary veins So-called traumatic thrombosis of 467 anatomical and roentgenological study of etiological factors of primary thrombosis of and consideration of venography as diagnostic measure 564
- Axis Isolated fracture of odontoid process of 1 atlanto-axial dislocations unassociated with trauma and secondary to inflammatory foci in neck 477
- B**ASEDOW'S disease See Goiter
- Benedek Percussion of skull by method of 431
- Bile Secretion of in cases of drainage of biliary passages 142
- Bile duct Effects of denervation of cystic duct 29 indications for and results of external choledochoduodenostomy 150, technique of operation on common 441 structure of common 441
- Bile ducts Secretion of bile in cases of drainage of 142
- Bilharziasis Experimental and hepatic stage of bilharziasis parasite in man 578
- Bilharziasis Feline 578
- Biliary tract Intrapertoneal biliary effusions without apparent perforation of 29 245 hepatic function in relation to operation and anesthesia in diseases and drainage of 248
- Bilirubin Determination of in blood as test of liver function 141
- Bladder Hernias of mucosa of 45 traumatic injuries of 47 value of cystometry 160 treatment of bladder tumors, 160 161 309 irradiation in cancers of bladder 160 161 interstitial cystitis 360 transurethral high frequency operations on neck of 371 dysfunction of in case of brain tumor 455 diathermy for carcinoma of 456 retention of urine, 456 endometrometers of 551 sclerosis of sphincter of in female 551 posterior segmental block excision of neck of with primary closure 552
- Blood Hypercholesterolemia as cause of hepatic calciosis, 28 amino-acids in in pregnancy 38 changes in chlorides of and their relation to postoperative changes in body fluids 67 white cells of, after roentgen irradiation 73 determination of bilirubin capacity of as to of liver function 141 eosinophilia of in cases of malignant tumor 183 pyrenal reticulocytosis with eosinophilia of 183 Takata's modified sublimate fuchsin reaction on serum of as diagnostic and in liver diseases 544 hemolysis during pregnancy 359 change in sugar content of following unilateral and bilateral denervation of suprarenal glands 365 operative risk in hemophilia 31 changes in in course of roentgen therapy with large fractionated and protracted doses 4 variations of total phosphorus in in physiological puerperal state 548 viscosity of in pathogenesis of priapism 553, articular changes in hemophilia 557 sugar level of in relation to action of painedrol and ether anesthesia 57, pre operative and postoperative lipoids of 575
- Blood transfusion Of postmortem blood 64 continuous drip 174 mistaken dangers, and unforeseen complications of, 566, transfusion of infections by 567
- Blood vessels Etiology of vascular symptoms of cervical rib 7 circulatory diseases of extremities 60 61 173 clinical value of alternate section and pressure in treatment of advanced disease of peripheral 61, peculiar transportation and generalization of carcinoma by way of without local metastases 78 changes in an experimental arteria 131 disease of peripheral 173 behavior of capillaries of cortical zone in hypertrophy of kidney 259 anatomical investigation of of lateral nasal wall and their relation to turbinates and sinuses 376
- Body fluids Relation of postoperative changes in blood chlorides to changes in 67
- Bone Recognition and treatment of sarcoma of 53, reaction of to introduction of steel as cause of complications of osteosynthesis, 57, formation of in post operative scars 68 influence of vascularization on formation of in connective tissue 166 tuberculosis of diaphysis of 166 pathogenesis of intra-cortical osseous tissue 226 phosphatase activity of tissues and plasma in tumors of 556 malignant changes in so-called benign giant cell tumor of, 557
- Bones Arteries of long of man 49 changes in, in cases of uterine and ovarian tumors 149 demineralization of 165 cartilaginous incisions in rachic and their relationship to cartilaginous tumors 160 injurious effect of of burned large metal bodies used in treatment of fractures 160 xanthomatous involving 165 hypod granulomatosis of 373 hereditary nature of osteopetrosis, 374 joint chondromatosis co-existing with malformations of 376 parathyroid glands in disease of 391 association of intrathoracic incisions with tuberculosis of 459 radical operative treatment of tuberculosis of 461 arteriography in differential diagnosis of lesions of 555 correction of rachic deformities of by preliminary decalcification 555 See also names of bones bone diseases and operations on bones
- Brachial plexus Paralysis of and phrenic nerve 130
- Brain Diagnosis and treatment of abscess of 12 abscess of with reference to Mosher drain and pneumographic visualization of cavity of 15 treatment of cysts of skull and their sequelae 235 concussion and extension of 235 epilepsy secondary to head injury 216 fibroblastoma of cerebral hemispheres in children under five years of age 23 symptomatology of traumatic subdural hematomas 326 responsibility of roentgenologist in detection of tumors of 326 enlargement of defect in air shadow normally produced by choroid plexus 327 otogenous abscess of parietal lobe of 411 bladder dysfunction in cases of tumor of 45 urgent indications for operation in recent closed traumatic injury of 523 abdominal pain as symptom of disease of 523 stimulation of intracranial tumor by lead encephalopathy in children 523
- Breast Liponecrosis of with xanthomatous degeneration 15 borderline tumors of 15 pathogenesis of Paget's disease of nipple and associated lesions 130 Schirrmacher's disease of and Lacaze's experiments on mice, 130 prevention and treatment of metastases in carcinoma of 241 tuberculosis of 241 acute mastitis of puerperium 256 rapidly disseminating cancers of 330 myxomatous tumors of 330 effect of theelin and galactin on growth and function of monkey 354 bleeding 434 Walker rat carcinoma of 19 mmo and in 19 47 fatty tissue tumors of 518 skin flaps in cosmetic plastic operations on, 58

SUBJECT INDEX

- Bronchi, Complex cases of dilatation of, 333; suppurations in, due to cancer of lung, 334; early classification and early diagnosis of cancer of, 532; secretion of mucus in, in relation to ether and chloroform anesthesia, 571
- Bronchial artery, Bronchiectasis and thrombosis of, 436
- Bronchiectasis, 435; attempts to produce, experimentally, 17; lobectomy for, 18, 133, 134, technique of one-stage lobectomy for, 18; following operations, 115; roentgenological picture of, 133; dangers of lobectomy for, 134, complex cases of bronchial dilatation, 333; and thrombosis of bronchial artery, 436
- Bronchitis following operation, 112
- Brow presentation, Mechanism and management of, 361
- Buccal nerve, Anastomosis of, and facial nerve, 237
- Burns, Plastic surgery in, due to roentgen rays and radium, 176, Davidson tannic acid treatment of, 283, pathology of, due to radium, 286, rate of fluid shift and its relation to onset of shock in severe, 469, present status of treatment of severe, 571
- Buttock, Gangrene of, due to *endameba histolytica*, 471
- CALCANEUS**, Treatment of fractures of, 172, fracture of body of, 378
- Cancer, 76; rôle of radiotherapy in problem of malignancy, 74, carcinoid and carcinoma, 76, early cutaneous carcinoma, 77, importance of special general predisposition to development of, and possibilities of combating it, 78, peculiar vascular transportation and generalization of spread of information on, 79, types of malignant disease treated with radium at Cancer Relief and Research Institute in Manitoba, 180, most successful methods of treating, 182, eosinophilia of blood in cases of malignant tumor, 183, tar, of lip in fishermen, 319, spindle-cell epidermoid carcinoma, 389, dispelling pessimism in treatment of, 390, influence of diet on, due to tar, 391, combined heat-roentgen therapy of malignant tumors, 474, histogenesis of basal-cell epithelioma, 476, study of Walker rat mammary carcinoma 256 *in vitro* and *in vivo*, 477, defense reactions of body to development of, and their importance in healing process, 477, carcinosarcoma, 478, value of lead compounds in treatment of, 577 *See also* names of organs
- Cardia, Sympathectomy in treatment of achalasia of, 128, treatment of functional and organic narrowings of, 242
- Cardiospasm, Postmortem observations in, 438
- Carotid artery, Post-traumatic thrombosis of, 379, anastomosis of, with subclavian artery, 466
- Carotid body, Tumor of, 323
- Cartilage, Effect of radium emanations on laryngeal, 8, dyschondroplasia, 49, inclusions of, in rachitic bones and their relationship to tumors of, 166, influence of vascularization on formation of, 166
- Cecoplication, 343
- Cecum, Circumscribed phlegmons of, and their treatment, 248, plication of, 343
- Cephalic presentation in occiput-sacral position at level of superior strait, 362
- Cervical ganglion, Spino-facial anastomosis and bilateral resection of superior, for bilateral facial paralysis, 327
- Cervical rib, Etiology of vascular symptoms of, 7, combined with other anomalies of vertebral column as family condition, 287
- Cervicitis, *See* Uterus, 144
- Cesarean section, In delivery of multiparas, 154, analysis of 381 cases of, at Michael Reese Hospital, Chicago, 349
- Cheek, Five-year end-results of treatment of, 223
- Cheilitis, Simple glandular, 6
- Chest, *See* Thorax
- Chloroform, Secretion of mucus in trachea and bronchi in relation to, anesthesia, 571
- Cholecystectomy, Causes of death after, at surgical clinic at Klausenburg in period from 1922 to 1932, 177
- Cholecystitis, Acute, 29, secretion of bile in cases of drainage of biliary tract, 142, hepatic function in relation to drainage for, 248, relation of, to pathological changes in liver, 541
- Cholecystogastrostomy and hepatitis, 29
- Cholecystography, 440, advantages of intensified oral, 179; and tumors of gall bladder, 345
- Cholecystostomy, Causes of death after, in surgical clinic at Klausenburg, in period from 1922 to 1932, 177
- Choledochoduodenostomy, Indications for and results of external, 250
- Cholelithiasis, *See* Bile duct
- Cholestern, Excess of, in blood as cause of hepatic calcinosis, 28
- Chondrodysplasia, 49
- Chordoma, Cranial and cervical, 75
- Choriomepithelioma, Origin of, from trophoblastic fragments enclosed in myometrium, 257; in male and its hormonal effect in form of "pregnancy changes," 262, new method permuting early diagnosis of malignant, after evacuation of mole, 364; with long latent period, 452, follow-up survey of cases of, treated at London Hospital since 1912, 452
- Choroid plexus, Enlargement of defect in air shadow normally produced by, 327
- Chylorthorax, Traumatic intrathoracic rupture of thoracic duct with, 437
- Clavicle, Apparatus for non-operative reduction of complete acromioclavicular dislocation, 58
- Cleft palate, Results of palatoplasty by method of Veau, 6, results of unsuccessful operations for, 518
- Climatic buboes, Treatment of, 164
- Club-foot, Treatment of congenital, 463
- Coin test in pneumopentoneum, 251
- Colitis, Sympathectomy for, 328
- Collective review Postoperative pulmonary complications, a review of literature of 1932-1933, 105; detachment of retina, a review of 1933-1934 literature, 209; traumatic epilepsy, a review and analysis of literature for years 1932, 1933, 1934, 313, early history of permanent extension in treatment of fractures, 417, present-day views on embolism, 505
- Colon, Carcinomas of, 139, retroposition of transverse, 248, massive tuberculosis of kidney and left renal space with formation of fistula into, 454, clinical significance of melanosis of, 537; surgery of, exclusive of operations for tumors and cysts and on appendix, 538
- Common duct, *See* Bile duct
- Compressed-air drills, Bone injuries of elbow joint due to working with, 266, symptoms in workmen using, 282
- Conjunctivitis, Pathogenic problem of so-called critical allergic, 226
- Connective tissue, Influence of vascularization on formation of bone in, 166
- Constipation, Sympathectomy for, 328; value of prostigmin in, 356
- Contracture, Volkmann's ischemic, 459; Dupuytren's disease, 560
- Cornea, Transplantation of, 4
- Corpus luteum hormone, *See* Hormone
- Cova's tender costolumbar point in pyelitis of pregnancy, 360
- Cowper's gland, Primary carcinoma of, 553

- Coxa magna as related to coxa plana 167
Coxa plana as related to coxa magna 167
Coxitis Resection arthroplasty in treatment of tuberculous, in adult 56
Cranium See Skull
Crucial ligaments Injuries to 169
Crural hernia See Femoral hernia
Crushing injuries Prognosis of of extremities 68
Cystic duct, See Bile duct
Cystitis Interstitial 169
Cystometry Value of 160
Cystostomy Suprapubic with excision and irradiation in treatment of malignant tumors of bladder 161
Cysts Amygdaloid of neck 323 See also names of organs
- D**ECALCIFICATION tannic acid treatment of burns 283
Decalcification Correction of rachitic deformities by precalium 555
Decapsulation Behavior of capillaries of cortical zone of kidney after enervation sympathetomy and 238
Deformities Etiology of congenital and hereditary 476
Demineralization of skeleton 185
Dermoid tumors Of spinal cord and differentiation of source of radicular pains 239
Diabetes Splanchnic nerve section in juvenile 526
Diaphragm Common genesis of congenital paralysis of and torticollis 129 hiatus hernias 135 eventration of 336 roentgen study of excursions of, after operation 38
Diaphragmatic hernia Hiatus hernia 133 eventration of diaphragm 135 336 etiology and diagnosis of on right side 534
Diathermy Comparative evaluation of physiotherapeutic and surgical methods in treatment of infections of female genital organs in relation to recovery of work capacity 37 indications for and results of short wave therapy in surgery 74 for retinal detachment 214 rhythmic coagulation in cervix 135 in gonorrhea in female 254 for carcinoma of bladder 436 thermic effect of in field of gynecology 547
Diet Influence of on tar cancer 321
Diploic vein Anatomy and pathology of 318
Disease Puente's, a parathyroidectomy for Raynaud's 9 pituitary gland in Addison's 43, Ollier's 49 Kuemmel's 30, Legg Calvé Perthes 50 Osgood Schlatter's 50 development and treatment of Kienboeck's 53 Pellegrini Stieda 54 circulatory of extremities 60 173 paraplegia in 1015 with special reference to pathology and etiology 127 Schimmblousch's of breast and Lacassagne's experiments on mice 130 pathogenesis of Paget's of nipple and associated lesions 130 Hodgkin's 175 risks of hookworm as complication of pregnancy 55 pathogenesis of Madelung's 288 Otto's and other forms of protrusion acetabuli 376 parathyroidectomy and Recklinghausen's 450
Disodium hydrogen phosphate Effect of on intestinal peristalsis 245
Divinyl ether 472
Duodenum Adenoma of 138 pathological anatomy and pathogenesis of diverticula of 246 acute and chronic infrapapillary ileus of 246 enterogenous cysts of 347 primary sarcoma of 247 indications for and results of external clamped duodenostomy 50 inflammation of descending portion of 343 surgical aspects of bleeding ulcer of, 420 chronic ileus of in infancy and childhood 536 external fistula of 537
Dupuytren's disease 560
Dura mater Neoplasms of involving vault of cranium 110 432 cells of metastatic adeno-epithelioma of 127 treatment of injuries of skull and their sequelae 235 symptomatology of traumatic, subdural hematomas 326
Dyschondroplasia 41
Dysentery Amoebic and its surgical complications 389
Dysmenorrhea Menstrual dysfunctions in disorders of personality 253 membranous 354 treatment of with emmenagogue 353
Dysphagia Treatment of spasmodic by sympathetic denervation 240 esophageal lesions encountered in with anemia 237
Dysphonia pharyngeal, vocalization with, ventricular bands in 9
- E**AR Meningitis of otitic origin 5 treatment of malignant tumors of middle ear at Radcliff Infirmary, Stockholm 114 symptoms in general diagnosis typical of disease of 230 otogenous abscess of parietal lobe, 431
Eclampsia Eclamping toxemia 39 experimental production and pathogenesis of 445
Edema Surgical importance of an aneurysm 75 pathogenesis of so-called traumatic 191 neurotic anasarca 182
Elbow Bone injuries of due to compressed air drills 266 symptoms in workmen using compressed air tools 261 fatal air embolism after intravenous injection in region of 343
Electrocoagulation Treatment of epithelial cancers of mandible by followed by radium irradiation 1 diathermic coagulation in cervix 135
Elliot's treatment of pelvic inflammatory disease 143
Embolectomy Arterial 14
Embolism 470 postoperative 6 113 115 460 fat following operation 115 origin of from fibrous fragments enclosed in myometrium 237 anatomical and physiopathological study of pulmonary infarct from 384 fatal air after intravenous injection in region of elbow 381 present-day views on 50
Embryo Anatomical studies of hypogastric ganglionic apparatus of small pelvis in with special consideration of its relation to genito-urinary tract 263
Emmenia Treatment of dysmenorrhea with 32
Empyema Treatment of with reference to drainage and expansion of lung 135 puncture for pleural 242
Encephalography Visualisation of abscess of brain by 21
Endameba histolytica Amoebiasis and its surgical complications 349 gangrene of buttock perineum and scrotum due to 471
Endarteritis obliterans Arterial resection combined with unilateral removal of suprarenal capsule in treatment of of extremities 279
Endocarditis Arteritis of subacute malignant 62
Endometrium Study of after pre-operative administration of extract of pregnancy urine, 148
Epididymitis Chronic so-called specific orchitis and 47
Epilepsy Neurosurgical remarks regarding treatment of injuries of skull and their sequelae 23, secondary to head injury 230 review and analysis of literature in traumatic for years 1932 1933 1934 1935
Epinephrine Influence of on shock resulting from removal of hemostatic tourniquet 87 late effect of diversion of adrenal gland on secretion of 453
Epithelioma See Cancer
Ergot Clinical comparison of various preparations of on postpartum human uterus 155
Esophagoscopy Spontaneous pneumothorax coincident with 335
Esophagus Adenoma of 10 study of in relation to heart aorta and thoracic cage 73 treatment of spasmodic dysphagia by sympathetic denervation 240 Jensen

- of, in dysphagia with anemia, 242, treatment of functional and organic narrowings of, 242; possibilities of curing severe erosions of, 243, simple ulcer of, 243, treatment of pharyngo-esophageal diverticula by one stage resection, 321, congenitally short, 335; roentgenological study of topographic and functional changes in, during late stages of pregnancy, 350; surgical anatomy of thoracic, 437, postmortem observations in cardiospasm, 438, relative frequency of various affections of, according to statistical study of cases observed in last ten years, 533
- Istin, *See* Hormone
- Ether, Tracheobronchial aspiration of buccopharyngeal secretion during anesthesia induced with, 281, new divinyl, 472, secretion of mucus in trachea and bronchi in relation to, anesthesia, 571, blood-sugar level in relation to, 572
- Ethmoid sinus, *See* Sinus
- Excretion urography, 163
- Exophthalmic goiter, *See* Goiter
- Exophthalmos, Etiology of, 120, 515, from surgical diseases, especially as to involvement of protective retrobulbar space, 426; ocular complications of, lesions in orbit as cause of, and surgical treatment of, 515
- Eye, Treatment of strabismus, 3, studies of, in cases of p-cudoxanthoma clasticum and angioid streaks, 4, etiology of exophthalmos, with particular reference to exophthalmic goiter, 120, teratoma of orbit, 121, paralysis of conjugate movements of, 121, sympathetomy for retinitis pigmentosa, 123, present status of treatment of detachment of retina, 123, 201, 220, entoptic phenomena associated with retina, 123, review of 1933-1934 literature on detachment of retina, 201, pathogenesis of ossous tissue in, 226, mixed tumor of orbit of, of salivary gland type removed with preservation of, 226, etiology, prognosis and treatment of ocular paralysis, 227, histological appearance of recent retinal tears, 228, formation of pupilledema, 220, retinal detachment, 220, surgical treatment of detachment of retina, 220, hydatid cyst of orbit, 318; exophthalmos from surgical diseases especially as to involvement of protective retrobulbar space, 426, disciform degeneration of macula, 427, X-ray injuries of, of fetus after irradiation in pregnancy, 448, complication in, from exophthalmos 515
- Exeball, Removal of mixed tumor of orbit of salivary gland type with preservation of, 226
- Fractures of neck of, 276, 378, 464, 503, treatment of fractures of neck of, by extra-articular method of Johansson, 276, interinnomino-abdominal amputation for sarcoma of, 376, nailing of fractures of neck of, 378; modification of Whitman's treatment for fracture of neck of, 464; treatment of fractured neck of, by axial fixation with steel wires, 563
- Fetus, Lymph vessels of meninges and serosa of animal and human, 432, ophthalmologically important X-ray injuries to, after irradiation during pregnancy, 448
- Fever therapy for gonococcal infections, 163
- Fibrositis, Lumbago, sciatica, and, 53, clinical importance of, in general practice, 106
- Fibula, Congenital absence of, 168
- Fingers, Characteristic changes in, of milkers, 53, symptoms in, of workmen using compressed-air tools, 212
- Fishermen, Tar cancer of lip in, 310
- Fistula, Anal, in relation to perianal intramuscular glands, 141, treatment of salivary, by irradiation, 224, repair of recto-urethral, 372, enterorectal, in tuberculous of kidney, 454, clinical study of external duo-denal, 537
- Flat-foot, Transverse-wedge arthrodesis for pain in rigid, 273
- Fluids, Changes in blood chlorides and their relation to postoperative changes in body, 67
- Folliculitis, *See* Hormone
- Foot, Occurrence of bilateral macular coloboma with typical dystrophy of, 4, circulatory diseases of, 60, streptococcal infection simulating ringworm of, 70, treatment of fractures of os calcis, 172, osteous blastomycosis simulating tarsal scapholysis in young children, 209, transverse-wedge arthrodesis for relief of pain in rigid flat, 273, treatment of cornepitoid club, 465
- Forceps Use and abuse of in midwifery, 302, Kielland, judged on basis of 200 applications and modification of technique of their use, 450
- Forearm, Fractures of with reference to disabilities, 172
- Fractures, Reaction of bony tissue to introduction of steel as cause of complications of osteomyelitis, 57, of Monteggia, 172, injuries effect on bones of banded large metal bodies used in treatment of, 160, application of treatment of, 172, early history of permanent extension in treatment of, 177, *See also* names of bones
- Fractures of jaw, Hereditary nature of, 201

- Gas gangrene, 383 treatment of traumatic wounds to prevent 470
- Gastrectomy Points in, 24
- Gastritis Gastroscopic examination in chronic, 23 peptic 24
- Gastro-enterostomy Wound healing after anterior 535
- Gastro-intestinal tract Solution of problems in diagnosis by radiological examination of 72 aberrant pancreatic tissue in 543
- Gastrosomy in chronic gastritis 23
- Genital organs Comparative evaluation of physiotherapeutic and surgical methods in infections of female in relation to recovery of work capacity 37
- Gland Tuberculosis of submaxillary 514 primary carcinoma of Cowper 553
- Glands Quantitative study of normal lymph of mesentery 22 stimulation of sex 146 radium in treatment of metastatic epidermoid cancer of cervical lymph 323 effect of irradiation on lymph 4 4
- Glaucoma Aspects of 426
- Glomus Tumors of neurotomyo-arterial 288
- Glucose Effect of on intestinal peristalsis 245 time of appearance of first signs of gastritis fibrosa after injection of 459
- Gonorrhea Constitutional factors favoring exophthalmos in exophthalmic, 120 diagnosis and treatment of malignant, 124 biochemical basis of thyroid function 314 clinical characteristics of Basedow's disease 520 practical experiences with surgical treatment of Basedow's disease 521
- Gonorrhea operation for retinal detachment 215 229
- Gonococcus Evaluation of roentgen findings in arthritis due to 52 fever therapy for infections due to 163 vaginitis in adult due to 353 gonodeviation in obstetrics and gynecology 356
- Gonodeviation in obstetrics and gynecology 356
- Gonorrhea Treatment of in female by systemic and additional pelvic heating 254
- Granuloma gangrenosum 416
- Granulomatous Skeletal lipid 373
- Granulosa-cell tumors 545
- Graves disease See Goiter
- Growth Substances promoting and inhibiting extracted from normal organs 301
- Gust operation for retinal detachment 214 229
- Gynecology Value of progestin in 356, gonodeviation in 356 primary thrombopenia syndromes in 448 thermic effect of short wave and of diathermy in 547
- HALLUX valgus** Radical operation for 463
- Hand Familial occurrence of bilateral macular coloboma in association with apical dystrophy of 4 streptococcal infection simulating ringworm of 70 injuries of and insurance 381 symptoms in workmen using compressed air tools 282 accidents to 470 plastic surgery of 508
- Harelip Theory regarding primary malformation 419 clinical forms of unilateral 517
- Heart Arteritis of subacute malignant endocarditis 62 study of esophagus in relation to 73 surgical anatomy of organs of anterior mediastinum 243 total thyroidectomy for disease of 419 advances in field of surgery of 532
- Heat Treatment of gonorrhea in female by means of systemic and additional pelvic 254
- Heliotherapy 180 in non venereal infectious processes in female genital organs 253
- Hematoma Symptoms of traumatic subdural 326
- Hematuria from cystic ureteritis in pregnancy 261
- Hemolysis during pregnancy, 350
- Hemophilia Operative risk in 382 articular changes in 557
- Herniorrhage Experimental and clinical study of shock due to 181 uterine of hematogenic origin 350 See also names of organs
- Hemorrhoids and sclerosing treatment 540
- Hemostasis Influence of adrenalin on shock resulting from removal of tourniquet for 287
- Hepatic duct See Bile duct
- Hepatitis Cholecystogastrostomy and 29
- Hernia Operation for crural by inguinal route and its late results 20 incarcerated obturator cured by operation 20 femoral of ureter 44 experimentally produced of mucosa of urinary bladder 45 hiatus 135 parainguinal and peri inguinal, 137 causes of death after operations for at surgical clinic at Klausenberg in period from 1922 to 1932 177 eventration of diaphragm 336 importance of transversalis fascia in development of inguinal 438 ambulant treatment of 438 etiology and diagnosis of eventration of right diaphragm 534
- Hiatus hernia 135
- Hip Osteochondritis 50 resection arthrodesis in tuberculous coxitis in adult 56, early treatment of congenital dislocation of 58 coxa magna as condition of related to coxa plana 167 Otto's disease and other forms of protrusio acetabuli 376 osteo-arthritis of 460 curved osteotomy of innominate bone as treatment for ankylosis of in poor position 462 epiphyseal pseudotuberculosis 559 late results of operative treatment of osteo-arthritis of 561
- Histiocytoma in early diagnosis of pregnancy 130
- Hodgkin's disease 175 lymphadenoma 175 histogenesis of lymphosarcomatosis 381
- Hookworm disease Risks of as complication of pregnancy 255
- Hormone Luteinization of ovaries in case of basophilic pituitary adenoma with Cushing's syndrome 34 enormous amount of lutein in urine in case of lutein cyst 34 corpus luteum and its isolation 34 testicular biology scrotal function and male sex 47 therapeutic value of Antuitrin S in menometrorrhagia 147 changes in mucosa of uterus following overdosage with follicular 148 results of pre-operative administration of extract of pregnancy urine 148 induction of abortion and labor by means of estrin, 153 rôle of estrin and progesterin in experimental menstruation 354 treatment of amenorrhea with large doses of estrogenic 354 treatment of dysmenorrhea with emmenin 355 gonadotropic in urine of men with tumor of testis 458 clinical value of Prolan A determinations in testis 458 time of appearance of osteitis fibrosa after injection of parathormone 459
- Hormones Biology and diagnostic therapeutic importance of sex of anterior lobe of pituitary gland 36 gonadotropic stimulation treatment 146 influence of on function of uterine musculature 147 therapeutic uses of preparations of sex 149 in edemas of pregnancy 152 chorionepithelioma in male and its hormonal effect in form of pregnancy changes 162 rôle of estrin and progesterin in menstruation 354 effect of estrin and galactin on growth and function of mammary glands of monkey 354 therapeutics with ovarina 446
- Hospital gangrene 576
- Humerus Fracture of external condyle of in children 170 open reduction of supracondylar fractures of in children 170 traumatic separation of medial epicondyle of, in adolescence 463
- Hydatid cyst of orbit, 318

Hydatidiform mole, Study of seventy-eight cases of, 42, new method permitting early diagnosis of malignant chorionepithelioma after evacuation of, 364; follow-up survey of cases of, treated at London Hospital since 1912, 452

Hydrochloric acid and gastric ulcer, 22

Hydronephrosis, Bilateral, in pregnant woman, 259, histological and functional process of repair of kidney following temporary, 365, experimental studies of, 365; as basis of renal atrophy, 453

Hypercholesterolemia as cause of hepatic calculosis, 28

Hyperinsulinism, Adenoma of islet cells with, 346, subtotal pancreatectomy for, 443

Hypernephroma, Treatment and prognosis of, 258

Hyperparathyroidism, And demineralization of skeleton, 165, parathyroid glands in health and disease, 391, skin in experimental, 480, and renal disease, 550

Hyperthyroidism, Treatment of, by roentgen irradiation of pituitary gland, 232, infectious diseases and, 429

Hypogastric ganglial apparatus, Anatomical studies of, of small pelvis in infant and embryo, 263

Hypoglossal nerve, Neurofibroma of, 13

Hypophysis cerebri, Luteinization of ovaries in basophile adenoma of, with Cushing's syndrome, 34, biology and diagnostic therapeutic importance of sex hormones of anterior lobe of, 36, in Addison's disease, 43, influence of hormones of, on function of uterine musculature, 147, hormone of, in edemas of pregnancy, 152; treatment of hyperthyroidism by roentgen irradiation of, 232, adenoma of adrenal cortex simulating pituitary basophilism, 550

Hysterectomy, For carcinoma of corpus uteri, 33, 145, cancer of cervix following subtotal, 352, total versus subtotal abdominal, in benign uterine disease, 352, conservation of ovary in, 353

ICTERUS, See Jaundice

Ignipuncture, Gonorrhea, for retinal detachment, 213

Ileus, Acute and chronic infrapapillary duodenal, 246, chronic duodenal, in infancy and childhood, 536

Ilium, New treatment for injuries involving, 171; interinnomino-abdominal amputation for chondroma of, 376

Infection, Anaerobic, in puerperal diseases, 41, autogenous, in relation to puerperal morbidity, 256, conservative attitude in treatment of acute pyogenic, 253, and hyperthyroidism, 429, transfer of, through blood transfusion, 567, pyogenic general, and its treatment, 577

Inflammation, Related to surgery, 288, roentgen therapy in, 573. See also names of organs

Inguinal hernia, Operation for crural hernia by inguinal route and its late results, 20, para and peri, 137, transversalis fascia in development of, 438

Innominate bone, Interinnomino abdominal amputation for osteoclastoma of, 376, curved osteotomy of, as treatment for ankylosis of hip in poor position, 462

Insurance, Hand injuries and, 282

Interinnomino-abdominal (hindquarter) amputation, 376

Intervertebral disks, Injuries to, following lumbar puncture, 267, healing of, after removal of nucleus pulposus in experimental animals, 558

Intestine, Carcinoma of large, 130, retroposition of transverse, 248, massive tuberculosis of kidney and left renal space with formation of fistula into colon and to exterior, 454

Intestines, Submucous lipomata of, as cause of obstruction of, 25, solution of problems in diagnosis by radiological examination of alimentary canal, 72, carcinoma of and carcinoma of, 76, causes of deaths after operations at surgical clinic at Klausenburg in period from 1912

to 1932, 177; action of various salts injected intravenously on peristalsis of, 245; obstruction of, and pregnancy, 255; surgery of innervation of, 328; roentgenological observations of automatism of formation of folds of mucous membrane in, 338; successful septuple resection and anastomosis of, 342; changes in spleen in experimental obstruction of, 342, invagination of, 342, 439; value of prostigmin in obstetrics and gynecology, 356, invagination of, 439, roentgen study of topographic and functional changes in, in pregnancy, 448, cystoid pneumatosis of, 536

Intussusception, In Finland, 342, problem of, 439

Iodized oil, Use of, as contrast medium in arteriography, 62

Islands of Langerhans, Adenoma of, with hyperinsulinism, 346, subtotal pancreatectomy for hyperinsulinism, 443

Isophenolization, Anatomical and functional studies of ovary at various intervals after, 146

JAUNDICE, Surgical treatment of so-called medical, 26, surgical results in chronic, 27; pruritus, 249

Jaw, Treatment of epithelial cancers of mandible by electrocoagulation followed by radium irradiation, 1, prolonged resection of lower, as treatment of cancer of, 3, odontogenous osteomyelitis of lower, 110; adamantinoma of, 120, tumors of, 225, symptoms frequently involved in general diagnosis typical of disease of, 230

Johansson, Operative treatment of fractures of neck of femur by extra-articular method of, 276

Joints, Thermometry of, 51; chondromatosis of, co-existing with osteogenic exostosis and osseous fissure between fifth lumbar and first sacral vertebrae, 376, association of intrathoracic lesions with tuberculosis of, 459, radical operative treatment of tuberculosis of, 462, changes in, in hemophilia, 557. See also names of joints, joint conditions, and operations

Juvara's operation, Treatment of benign tumors of knee joint by, 169

KIDNEY, Nephrectomy and pregnancy, 38, indication for nephrectomy following diagnosis of unilateral tuberculosis of, 43; pre-operative irradiation of tumors of cortex of, 43, malignant tumors of, in children, 43, pathology and clinical aspects of squamous-cell carcinoma of pelvis of, 44, traumatic injuries of, 47; function of, in toxemias of pregnancy, 151, postabortive anuria with spastic phenomena treated by decapsulation of, and chlorine replacement, 153; clinical importance of congenital hypoplasia of, 157, present conception of lithiasis of, 157, treatment of bilateral urinary calculi, 159, symptoms of solitary cysts at upper pole of right, 159; excretion urography for diagnosis of renal lithiasis and tumor, 163, influence of vascularization on formation of bone in, 166, perirenal reticulosarcoma with eosinophilia of blood and tumor, 183, meatoscopy in diagnosis of pyelo-ureteral conditions, 258, behavior of capillaries of cortical zone of, after enervation, sympathectomy, and decapsulation, 258; behavior of capillaries of cortical zone of, in hypertrophy of, 259, operative indications in ptosis of, 259, cicatricial nephritis, 260, tissue changes in mixed tumors of, after roentgen therapy, 260; origin of urinary calculi, 263; perianteritis nodosa with fatal perirenal hemorrhage, 278, histological and functional process of repair of, following temporary ureterophraxis, 345, tuberculoma and pseudoneoplastic tuberculosis of, 366, clinical and pathological study of Wilms' tumor, 366, papillary epithelioma of pelvis of, 367; roentgen diagnosis of papilloma of pelvis of, 367; bilateral adenomatous polyposis of ureter and pelvis of, 368, etiological factors and clinical management of recur-

- rent urolithiasis 453 hydrocephalic bases of atrophy of 453 massive tuberculosis of and left renal space with formation of 6 tula into colon and to exterior, 454 hyperparathyroidism and disease of 550
- Kienbock's disease Development and treatment of 53
- Kjelland forceps Technique of use 450
- Knee Osteochondritis of 50 chronic syphilitic arthritis of, 52 Pellegrini Stieda disease, 54 treatment of traumatic 268 surgical treatment of benign tumors of by Juvara's operation 160 injuries to crucial ligaments 260 use of horsehair and continuous traction by transquadriceps wire in case of refracture of patella through bed of wire used for anterior hemiarthrosis 277, internal derangements of 461 traumatic 461 treatment of acute purulent arthritis of by joint washing and closure 359 drainage of 361
- Krukenberg tumor 444 445
- Kuemmel's disease Osteochondritis 50
- LABOR** Statistical study of uterine ruptures in 40 rectal examination in course of 40 induction of by means of estrin 153 recording number of pains in spontaneous 154 delivery of multiparas 154 contraction ring in relieved by amyl nitrite 155 manual separation of placenta in presence of infectious processes in genitalia 283 pubiotomy in 256 malpractice collapse of lung following 257 mechanism and management of brow presentation in 361 treatment of disproportion in 361 failures in operative obstetrics in home practice and their treatment 361 use and abuse of forceps in midwifery 160 cephalic presentation in occiput sacral position at level of superior strait 362 maternal mortality 361 indications for and technique of hypodermic injections of oxygen in obstetrics 363 Kjelland forceps judged on basis of 200 applications and modification of technique of their use 450 manual detachment of placenta and intra uterine palpation in 450 treatment of retroplacental hemorrhage with uterine apoplexy in 348 parallel study of in young and old primiparas 549
- Laryngectomy For carcinoma of larynx 10 11 430 total 450
- Laryngitis ure for carcinoma of larynx 10 11
- Larynx Effect of radium emanations on cartilage of 9 phonation with ventricular bands in dysphonia pharyngeal ventricles 9 local tumor like deposits of amyloid in 20 surgery of carcinoma of 10 11 malignant disease of 11 120 tuberculosis of 232 roentgen radiation necrosis of 325
- Lead Time of appearance of first signs of osteitis fibrosa after injection of 450 stimulation of intracranial tumor by encephalopathy in children due to 523 compounds of in treatment of malignant tumors 57
- Leg Circulatory diseases of extremities 60 development and treatment of varicose veins of 63 prognosis of crushing injuries of 68 amputation of and artificial limbs 20 source of pain in amputation stumps in relation to rational treatment 272 late results of treatment of ulcers of by operations on sympathetic nerve combined with skin grafting 287 internominal abdominal (hind-quarter) amputation 270
- Leg Calvé Perthes disease 30
- Leucocytes after roentgen irradiation 73
- Leucorrhea Problem of discharge from genital tract 36
- Leukemia Supravital staining in diagnosis of 65 diagnosis and treatment of 65 malignant monoblastoma as variant of monocytic 380
- Ligaments Injuries to crucial 269 behavior and structure of round in changes of position of uterus and cases of uterine fibromyoma 122
- Lip Simple glandular chelitis or Puente's disease 6 treatment of malignancy of with radium at Cancer Relief and Research Institute Manitoba 180 rare cancer of in fishermen 319 spindle cell epidermoid carcinoma of 389 theory regarding primary malformation in barrel lip 4 9 clinical forms of unilateral barrel lip 317 so-called mixed tumors of upper 518
- Lipodol See Iodized oil
- Lipogranuloma 278
- Lipomatosis Pathogenesis of multiple symmetrical 283
- Liposarcoma Abdominal, with ovarian metastases 183
- Liver Significance of anaplastic organisms in peritonitis due to autolysis of 20 omentoplexy in portal cirrhosis of with ascites 28 hypercholesterolemia as cause of calcification of 28 cholecystogastrotomy and hepatitis 29 study of function of, in pregnancy 38 bilirubin capacity test as test of function of 142 function of in relation to operation and anesthesia in surgical affections in general and disease and drainage of biliary tract, 248 Takata's modified sublimation reaction on blood serum as diagnostic aid in diseases of 344 large non parasitic cysts of 345 functional capacity of in toxemia of pregnancy and their sequelae 360 objective use of recent methods of testing function of 360 reaction of to roentgen irradiation after intravenous injection of thorotrast 474 relation of cholestasis to pathological changes in 541
- Lobectomy Technique of one stage 18 for bronchiectases in children 123 dangers of 134
- Lugol's solution in acute secondary parotitis 224
- Lumbago Fibrositis, sciatica and, 53
- Lumbar puncture Injuries to vertebrae and intervertebral disks following 267
- Lunate bone Osteochondritis of 50 development and treatment of malacia of 53 conservative treatment of total dislocation 273
- Lung Clinical study of pulmonary manifestations in human tularemia 16 surgery of root of 17 technique of one-stage lobectomy 18 postoperative complications in 67 68 105 468, 469 review of literature of 1932-1933 on postoperative complications in 105, vascular changes in experimental atelectasis 131 lobist form of syphilis of 131 treatment of giant cavities in by pneumothorax 132, technique of phrenectomy with exposure of accessory phrenic and subclavian nerves 132 lobectomy for bronchial tumors in children 131 congenital cyst of 133 anatomico-roentgenological characteristics of congenital cyst 133 dangers of lobectomy 134 treatment of empyema with reference to drainage and expansion of 134 massive collapse of following childbirth 257 experimental pneumoconiosis and its sequelae 257 situation of pleural exudate in obstructive atelectasis 330 value of roentgen examination in surgical treatment of tuberculosis of 330 surgical treatment of tuberculosis of, 337 multiple intercostal neurectomy for tuberculosis of 332 thoracoplasty and contralateral artificial pneumothorax 333 bronchopulmonary aneurysms due to cancer of 334 experiments on resection of 334 anatomical and physiopathological study of infarct of embolic origin 334 cysto-plasty with extrinsic apoplexy 434 varied pathological basis for symptoms produced by tumors in region of apex of and upper mediastinum 436 influence of uterine trauma on genesis of postoperative complications in 468 postoperative emboli of 469 postoperative atelectasis 469 working test as clinical method for determining function of 469 results of surgery of tuberculosis of 550 experimental total pneumoectomy 130 pulmonary abscess of following total extirpations 550 abscesses

- of, and their treatment, 531, early classification and early diagnosis of cancer of bronchus, 532
- Lutein, *See* Hormone
- Lymph, Effect of irradiation on circulation of, 474
- Lymph glands, Mesenteric lymphadenitis simulating acute appendicitis, 22, quantitative study of size of normal mesenteric, 22, radium in treatment of metastatic epidermoid carcinoma of cervical, 323; effect of irradiation on, 474
- Lymph vessels, Examinations of, of meninges and serosa of animal and human fetuses, 432
- Lymphangioma, Unusual location of cystic, 567
- Lymphogranulomatosis inguinalis, Treatment of, 164, relation of, to stricture of rectum, 264
- Lymphosarcoma, Clinical, pathological and radiotherapeutic study of, 66, histogenesis of, 381
- MACULA** retinae, Bilateral coloboma of, with apical dystrophy of hands and feet, 4, disciform degeneration of, 427
- Madelung's disease, Pathogenesis of, 288
- Malignancy, *See* Cancer, Sarcoma, and names of organs
- Mandible, *See* Jaw
- Mastitis, Acute, of puerperium, 256
- Mastoidectomy, In suppuration of petrous pyramid, 5, cortical, 319
- Maternal mortality, 363
- Maxilla, *See* Jaw
- Maxillary sinus, *See* Sinus
- Mediastinum, Ganglioneuroma of, 19, surgical anatomy of organs of anterior, 243, nerve tumors of, 335, pathological basis for symptoms of tumors in region of pulmonary apex and upper, 436
- Melanosis coli, Clinical significance of, 537
- Meningeal artery, Injuries of middle, 524
- Meninges, Problems of hydrodynamics of analgesics in subarachnoid fluid, 70, cells of metastatic adeno-epithelioma of dura mater, 127, symptomatology of traumatic subdural hematomas, 326, lymph vessels of, and serosa of animal and human fetuses, 432, tumor of dura mater perforating vault of cranium, 432, intraspinal ependymomas of, 525
- Meningiomas, Secondary neoplasms of vault of cranium from roentgenological point of view, 119, angioblastic, 432
- Meningitis of otitic origin, 5
- Meningitis, Injury of, of knee, 461
- Menometrorrhagia, Therapeutic value of Antuitrin-S in, 147, genital hemorrhages with local cause, 355, surgical treatment of genital hemorrhages due to causes other than pregnancy and tumors, 546, physiotherapy of, due to causes other than pregnancy and tumors, 546
- Menopause, Condition of uterine fibromas after, 32
- Menorrhagia without uterine lesions, 350
- Menstruation, Amenorrhea associated with bilateral polycystic ovaries, 35, therapeutic value of Antuitrin-S in menometrorrhagia, 147, therapeutic uses of sex-hormone preparations in disturbances of, 149, nature and treatment of menstrual dysfunction in disorders of personality, 252, rôle of estrin and progesterin in experimental, 354, membranous dysmenorrhea, 354, treatment of dysmenorrhea with "emmenin," 355, genital hemorrhages with local cause, 355
- Mesenteritis, Pathogenesis of fibrous retractile, 21
- Mesenterium commune, 21
- Mesentery, Mesenterium commune, 21, lymphadenitis of, simulating acute appendicitis, 22 normal lymph nodes of, 22
- Metrorrhagia Therapeutic value of Antuitrin-S in, 147
- Milkers, Characteristic changes in fingers of, 53
- Monoblastoma, Malignant, 380
- Monteggia, Fractures of, 58
- Morphine, Effect of, on human ureter, 159
- Mortality, Maternal, 363
- Mosher drain in treatment of brain abscess, 13
- Mouth, Adenocarcinoma of, 518, treatment of carcinoma of, 519
- Mucous glands, Treatment of so-called mixed tumors with structure of, occurring in skin and subcutis, 182
- Mucus, Secretion of, in trachea and bronchi in relation to ether and chloroform anesthesia, 571
- Multiparas, Delivery of, 154
- Muscle, Microscopic studies on progressive atrophies of with special regard to findings in spinal cord and muscles, 557
- Myelitis, Of pregnancy, 152, caused by pregnancy toxemia, 449
- Myelography, 524
- Myeloma, Multiple, and demineralization of skeleton, 165
- Myometrium, Origin of chorionepitheliomas and emboli from trophoblastic fragments enclosed in, 257
- NAFFZIGER** syndrome, 321
- Nasopharynx, Cysts and retention abscesses of, 251; tumors of, 427
- Navicular bone, Osteochondritis of, 50, osseous blastomycosis simulating tarsal scaphoiditis in young children, 260
- Neck, Amygdaloid cysts of, 323, radium in treatment of metastatic epidermoid carcinoma of lymph nodes of, 323, roentgen radiation necrosis of structures of, 325
- Nephralgia, Cicatricial, 260
- Nephrectomy, And pregnancy, 38, indications for, following diagnosis of unilateral renal tuberculosis, 43, causes of death after operations at surgical clinic at Klausenburg, in period from 1922 to 1932, 177; for hypernephroma, treatment of ureter remaining after, 454
- Nephrolithiasis, Present conception of, 157
- Nerve, Neurofibroma of hypoglossal, 13, palatine access to ganglion sphenopalatinum and second branch of trifacial, 13, technique of phrenicectomy with exposure of accessory phrenic and subclavian nerves, 132
- Nerves, Toxin of bacillus tetani not transported to central nervous system by peripheral, 69, 471, technique of phrenicectomy with exposure of accessory phrenic and subclavian, 132, anastomosis of buccal and facial, 237; anatomical studies of hypogastric ganglionic apparatus of small pelvis in infant and embryo with special consideration of its relation to genito-urinary tract, 263; multiple intercostal neurectomy for pulmonary tuberculosis, 332, tumors of, of mediastinum, 335, intramural innervation of uterus, 350, intercostoradicular anastomosis in vertebral injuries with section of lumbar spinal cord, 433, section of splanchnic, in juvenile diabetes, 526, use of spinal cord as heteroplastic graft for peripheral, 526, cutaneous innervation, 527
- Nervous system, Surgery of sympathetic, 328, tetanus toxin not carried in peripheral nerves to central, 69, 471
- Neuralgia, Palatine access to sphenopalatine ganglion and second branch of trifacial nerve in treatment of, 13
- Neurectomy, Multiple intercostal, for pulmonary tuberculosis, 332
- Neuritis caused by pregnancy toxemia, 449
- Neuroblastoma, Roentgen aspects of sympathetic, 240
- Neuromyo-arterial glomus, Tumors of, 288
- Neurotic acro-edema, Pathogenesis of, 181
- Newborn, Epidemic pemphigus of, 451
- Nipple, Pathogenesis of Paget's disease of, and associated lesions, 150

- Nitrous oxide oxygen Anesthesia induced with trichloroethanol and, 71
- Noma Infectious gangrene of skin due to bacterial synergism with particular reference to, 576
- Nose Malignant tumors of mucosa of 6 cysts and retention abscesses of nasopharynx 231 ventilation of and accessory sinuses 319 part played by allergy or sensitization in predisposing mucous membrane of nasal passages and paranasal sinuses to infection and its bearing on treatment of disease of these cavities 427 tumors of nasal and paranasal cavities 427 anatomical investigation of blood vessels of lateral wall of and their relation to turbinates and sinuses 576
- Novocain Diazotized in artificial dural sacs 70
- Nucleus pulposus Healing of intervertebral disk after removal of 553
- OBSTETRICS** Gonadotropin in 566 value of progestin in 556 failures in operative in home practice and their treatment 361, indications for and technique of hypodermic injections of oxygen in 363, primary thrombophlebitis syndromes in 448
- Obturator hernia Incorporated cured by operation 20
- Occhiput sacral presentation at level of superior strait 362
- Oiler's disease 49
- Omentectomy in portal cirrhosis of liver with ascites 23
- Omentum Liposarcoma of with metastases, 183
- Operating room Total sterilization of, 569
- Operation Variations in blood chlorides and their relation to changes in body fluids after 67 ossification in scars due to 63 pulmonary complications following 6 68 10 463 469 569 review of literature of 1932-1933 on pulmonary complications following 105 results of administration after of extract of pregnancy urine 148 treatment of benign tumors of knee joint by Juvana's 269 progressive gangrene of skin following 176 281 576 causes of deaths following in surgical clinic at Klausenburg in period from 1922 to 1932 177 Gonio for retinal detachment 215 Sourdille for retinal detachment 214 Cusht for retinal detachment 214 hepatic function in relation to and in relation to surgical affections in general and diseases and drainage of biliary tract 243 tracheobronchial aspiration of buccopharyngeal secretion during under ether anesthesia 281 diaphragmatic excursions and venous flow after, 382 risk of in hemiplegia 38 getting patient out of bed early after abdominal 468 influence of surgical trauma on genesis of pulmonary complications following 468 pulmonary atelectasis following 469 pulmonary embolism following 469 569 infection during 568 thrombosis following 569 lipoid and blood before and after 555 hospital gangrene after 576
- Optic disk Primary melaniosarcoma of 576
- Orbit Teratoma of 121 mixed tumor of of salivary gland type removed with preservation of eyeball 226 hydatid cyst of 318 exophthalmos from primary lesions in 575
- Orethidostomy Va o orethidostomy with interposed spermatocele in treatment of sterility 554
- Orchitis Chronic so-called aspecific 47
- Os calcis See Calcaneus
- Osgood Schlatter's disease 50
- Ossification in postoperative scars 68
- Osteitis fibrosa cystica And demineralization of skeleton 165 ranthomatosis generalisata osseum simulating 205 and parathyroid glands 324 parathyroidectomy and 459 time of appearance of after injection of parathormone glucose or lead salts 459
- Osteochondritis 50
- Osteochondritis juvenalis 359
- Osteomyelitis Treatment of 69 See also names of bones
- Os opisthyrosia Hereditary nature of 314
- Osteosynthesis Reaction of bony tissue to introduction of steel as cause of complications of, 51
- Otitis Media otitis due to 5
- Otto's disease, 376
- Ovary Enormous amount of lutein hormone in urine in case of luteal cyst of 34 luteinization of in case of basophilic pituitary adenoma with Cushing's syndrome 34 amenorrhea -occated with bilateral polycystic 35 gonadotropic stimulation treatment 146 fate of isophenylized 146 study of ovaries and endometrium following pre operative administration of extract of pregnancy urine 148 changes in mucosa of uterus following overdosage with follicular hormone 148 changes in bones in cases of tumors of 149 therapeutic uses of sex hormone preparations, 149 445 abdominal liposarcoma with metastases in 183 conservation of in hysterectomy 353 genital hemorrhages with local cause 353 surgical treatment of dysfunctions of 444 metastases in of epitheliomas of digestive tract 444 Krukenberg tumors of 444 445 roentgen studies of cranium of women with dysfunction of 545 granulosa-cell tumors of 545
- Oxygen Indications for and technique of hypodermic injections in obstetrics 363
- PAGETS** Disease Pathogenesis of nipple and a scented nipple 130 and demineralization of bones 165
- Pain Source of in amputation stumps in relation to rational treatment 272 abdominal in children 347 abdominal as symptom of disease of brain 523
- Palate Results of palatoplasty by method of Veau 6 results in cleft operated upon unsuccessfully 518
- Palatoplasty, Results of by method of Veau 6
- Pancreas Surgery of acute diseases of 30 347 latent adenocarcinoma of body of 750 adenoma of islet cells with hyperinsulinism 346 aberrant pancreatic tissue in gastro intestinal tract 542
- Pancreaticectomy Subtotal for hyperinsulinism 443
- Pancreatitis Acute 30 345 surgical treatment of chronic 346
- Papilledema Formation of 229
- Paralysis Of conjugate movements of eyes 221, pathology and etiology of paraplegia in Pott's disease 127, congenital of congenital of diaphragm and torticollis, 129 functional neuroses etiology prognosis and treatment of ocular 227 bilateral facial treated by spinofacial anastomosis and bilateral resection of superior cervical ganglion 527
- Parathormone See Hormone
- Parathyroid glands 324 391, And renal lithiasis 157 350 and demineralization of bones 165 anatomy of 226 sufficiency of and symptoms of spasmophilia in cases of blastoma 184 in health and disease 301 skin in experimental hyperparathyroidism 450 formation of calcium salts in hyperparathyroidism 550
- Parathyroidectomy For Raynaud's disease and scleroderma 8, and Recklinghausen's disease 459 in ankylosing spondylitis 557
- Parotitis Lugol's solution in acute secondary 224
- Patella Use of horsehair suture and continuous traction by transquadiceps wire in fracture of through bed of wire used for anterior hemiarthroplasty 277 injury of in trauma to knee 461
- Paunverol Blood sugar level in relation to action of 572
- Pellegri's Stued disease 54
- Pelvis Elliott treatment of inflammatory disease of 148, treatment of gonorrhea in female, by systemic and additional heating of 254 anatomical studies of hypo-

- gastric ganglial apparatus of small, in infant and embryo with special consideration of its relation to genitourinary tract, 263, interinnomino-abdominal amputation for sarcoma of, 376, distribution of roentgen radiation in average female, for different physical factors of irradiation, 574
- Pemphigus, Epidemic, of newly born, 451
- Penis, Epithelioma of, 45, 285, radium treatment of epithelioma of, 285; viscosity of blood in pathogenesis of priapism, 553
- Pericain, Fatalities in anesthesia induced with, 284
- Periarthritis nodosa, With fatal perirenal hemorrhage, 278; as manifestation of sepsis lenta due to streptococcus viridans, 465
- Pericarditis, Fluoroscopic findings in acute and chronic, 18, problems of adhesive, 135; suppurative, 334
- Pericardium, Surgical anatomy of organs of anterior mediastinum, 243; advances in surgery of, 532
- Perineum, Gangrene of, due to endameba histolytica, 471
- Peripheral nerves, Toxin of bacillus tetani not transported to central nervous system by, 69
- Peristalsis, Action of various salts injected intravenously on intestinal, 245
- Pentoneal cavity, Biliary effusions in, without apparent perforation of biliary tract, 29
- Pentoneum, Tuberculosis of, and pregnancy, 39
- Pentonitis, Significance of anaerobic organisms in, due to liver autolysis, 20, problem of draining abdominal cavity in general, 21, intraperitoneal biliary effusions without apparent perforation of biliary tract, 29, 245; generalized, from rupture of pyosalpinx, 33, biliary, without apparent perforation of biliary tract, 245, acute, generalized, primary, complicating scarlet fever, 338, abdominal pain in children due to, 347
- Personality, Nature and treatment of menstrual dysfunction in disorders of, 252
- Perthes' disease, 50
- Petrous pyramid, Suppuration of, 5, 516
- Pharynx, Malignant disease of, 126, treatment of malignancy of, with radium at Cancer Relief and Research Institute, Manitoba, 180; cysts and retention abscesses of nasopharynx, 231, pharyngo-esophageal diverticula treated by one-stage resection, 321, malignant tumors of nasopharynx, 427
- Phosphatase activity of tissues and plasma in tumors of bone, 556
- Phosphorus, Variations of total, in blood in physiological puerperal state, 548
- Phrenic nerve, Common genesis of congenital paralysis of diaphragm and torticollis, 120, technique of phrenicectomy with exposure of accessory, and subclavian nerves, 132
- Phrenicectomy, Technique of, with exposure of accessory phrenic and subclavian nerves, 132; in surgical treatment of pulmonary tuberculosis, 331
- "Phrygian cap" in cholecystography, 249
- Pituitary gland, See Hypophysis cerebri
- Placenta, Manual separation of, in presence of non-venereal infectious processes in genital organs, 253, treatment of dysmenorrhea with placental extract, 355; apoplexy of, 358, hemorrhages of, 359, manual detachment of, and intrauterine palpation, 450
- Placenta previa, Cases of, 448
- Pleura, Eosinophilia in artificial pneumothorax, 132, treatment of empyema with special reference to drainage and expansion of lung, 135, puncture treatment of empyema of, 212, extrapulmonary tumors of thorax, 244, situation of exudate in, in obstructive atelectasis of lung, 330, photographic and photomicrographic study of inflammations of, 413
- Pleurisy, Sudden death in serofibrinous, 436
- Pneumectomy, Experimental total, 520
- Pneumonia following operations, 110
- Pneumoperitoneum, "Coin test" in, 251
- Pneumothorax, Treatment of giant cavities by, 132, pleural eosinophilia in artificial, 132, thoracoplasty and contralateral artificial, 333, spontaneous, coincident with esophagoscopy, 335
- Polyneuritis and myelitis caused by pregnancy toxemia, 449
- Polyspondylitis marginalis osteophytica, 268
- Potassium chloride, Effect of, on peristalsis of intestines, 245
- Pott's disease, Paraplegia in, with special reference to pathology and etiology, 127, method of cure of tuberculous spondylitis, 167
- Pregnancy, Treatment of carcinoma of cervix in, 33, hepatic function in, 38, curve of amino-acids in blood in, 38, nephrectomy and, 38, genitoperitoneal tuberculosis and, 30, eclamptogenic toxemia in, 39; histidinuria in early diagnosis of, 150, "short," 150, time for operation for ruptured ectopic, 151; renal function in toxemias of, 151, physiopathological study of edemas of, 152, clinical study of edemas of, 152, myelitis of, 152; retinal detachment in, 213, early diagnosis of extra-uterine, 255, intestinal obstruction and, 255, risks of hookworm disease as complication of, 255, bilateral hydronephrosis in, 259, hematuria from cystic ureteritis in, 261, uteroplacental apoplexy in, 358, clinical picture of extra-uterine, 358, roentgen study of topographic and functional changes in esophagus and stomach during late stages of, 359, clinical study of placental hemorrhages in, 359, hemolysis during, 359, Cova's tender costolumbar point in ptychitis of, 360, functional capacity of liver in toxemias of, and their sequela, 360, obstetrical use of recent methods of testing hepatic function in, 360, ophthalmologically important roentgen-ray injuries to fetus after irradiation during, 448, roentgenological study of topographic and functional changes of intestine in, at term, 448; polyneuritis and myelitis caused by, toxemia of, 449; clinical study of 2,150 cases of syphilis and, 449, diagnostic difficulties in, complicated by softened fibroma, 449, variations of total blood phosphorus in physiological puerperal state, 548
- Priapism, Viscosity of blood in pathogenesis of, 553
- Primiparas, Parallel observations of labor in young and old, 549
- Progestin, See Hormone
- Prolan A, See Hormone
- Prostate, Carcinoma of, with metastases, 46, chronic inflammation and calculus of, treated by incision with electrocautery, 46, irradiation in cancer of, 160, frequency of occult carcinoma of, 162, morphology of small carcinoma of, 261, radical cure of carcinoma of, 261, diverticulitis and calculi of, 370, transurethral high frequency operations on neck of bladder, 371, 457; diverticulitis and cancer of, 371, new orientations in treatment of hypertrophy of, 456, transurethral treatment of hypertrophy of, 457, atony of, 553
- Prostatectomy, Causes of death after, at surgical clinic at K'au-ehurg, in period from 1922 to 1932, 177
- Prostatitis, Chronic, and prostatic calculus treated by incision with electrocautery, 46, treatment of chronic, by injection, 457
- Prostigmin, Value of, in obstetrics and gynecology, 354
- Pseudoxanthoma elasticum and amino aciduria, 4
- Pubotomy, 256
- Pubis, Injuries involving ilium, 171
- Puente's disease of lip, 6

- Puerperium** Treatment of atonic hemorrhages in 40 etiology of infection in 41 anaerobic infection in etiology of diseases in 41 clinical picture diagnosis and treatment of diseases of 41 Elliott treatment of pelvic inflammatory disease 143 studies of delivery in multiparas 151 clinical comparison of various ergot preparations on human uterus in 155 treatment of fever in with antistreptococcal serum, 256, autogenous infection in relation to morbidity of 256 acute mastitis of 256 massive collapse of lung in 257, maternal mortality in 363 treatment of sepsis in 430 gangrene in 451
- Pulmo-alveolography** 285
- Pulmolympography** 285
- Pulmonary embolism** following operations 113
- Pyelitis** Cova's tender costolumbar point in diagnosis of of pregnancy 360
- Pylorus** Treatment of in operations for gastric ulcer 22
- Pyogenic general infection** Treatment of 283 577
- Pyosalpinx** Generalized peritonitis from rupture of 33
- Uro-urachus** Ruptured complicated by urethral stricture 552
- Pyramidal syndrome** following spinal anesthesia 386

RADIUM Treatment of epithelial cancers of mandible by electrocoagulation followed by irradiation with 1 effect of emanations of on laryngeal cartilage 8 development of irradiation therapy of cervico-uterine epithelomas 32 five year results of use of for carcinoma of corpus uteri 33 in treatment of carcinoma of cervix in pregnancy 33 role of radiotherapy in problem of malignancy 74 in cancer, 6 282 treatment of malignant tumors of middle ear at Radiumhemmet Stockholm 124 in treatment of malignant tumors 124 in treatment of adenocarcinoma of cervix 145 in treatment of cancers of bladder and prostate 100 suprapubic cystostomy with excision and irradiation in treatment of malignant tumors of bladder 161 369 plastic surgery in burns due to 176 types of malignant disease treated with at Cancer Relief and Research Institute in Manitoba 180 trend in treatment of cancer 182 five year and results of in cancer of cheek 223 in treatment of metastases in carcinoma mammae 241 in treatment of myoma 252 in treatment of epithelioma of penis 285 pathology of burns due to 286 in treatment of metastatic epithelioid carcinoma of cervical lymph nodes 313 in inoperable rectal carcinoma 344 in treatment of bladder tumors 359 dosage and technique of use of in carcinoma of skin 387 interstitial irradiation with with platinum iridium needles in carcinoma of skin 397 teluortherapy 397 in treatment of carcinoma of mouth 519 in treatment of genital hemorrhages in women from causes other than pregnancy and tumors 546

Radius Fractures of Monteggia 56 end results of treatment of fractures of upper extremity of 58 analysis of 415 cases of fractures of forearm with special reference to disabilities 170

Raynaud's disease Parathyroidectomy for 8 circulatory diseases of extremities 60 roentgenographic study of peripheral arteries of living subject following their injection with radiopaque substance 61 peripheral vascular disease 173

Recklinghausen's disease Parathyroidectomy and 459

Rectum Radical operation for carcinoma of 26 449 carcinoma of 130 surgical treatment of prolapse of 140, 344 causes of death after operation at surgical clinic at Klausenburg in period from 1922 to 1932 177 relation of lymphogranuloma inguinale to structure of 264 successful irradiation treatment of inoperable carcinoma

of 344 pathogenesis of prolapse of 344 repair of tear and fistula of 372, operative treatment of fibrous structure of 539

Retina Congenital coloboma of macula of with familial occurrence of bilateral macular coloboma in association with apical dystrophy of hands and feet, 4 sym- pathetomy for retinitis pigmentosa 223 treatment of detachment of 123 200 220 entoptic phenomena associated with 223 review of 1933-1934 literature on detachment of 209 histological appearance of recent tears of 225 formation of papilledema 229 detachment of 229 disciform degeneration of macula 427 bilateral gliomas of treated by radiation 315 primary melanomatous of optic disk 516

Retinitis Sympathectomy for, pigmentosa 125 retinal detachment in 315

Retrolacental hemorrhage with uterine apoplexy Treatment of 548

Rheumatoid arthritis 573

Rib Etiology of vascular symptoms of cervical 7

Ribs Roentgenological study of normal and pathological satellite shadows of 179 cervical combined with thoracic anomalies of vertebral column as family condition 287

Rickets Cartilaginous inclusions in rachitic bones and their relationship to cartilaginous tumors 666 correction of deformities due to by preliminary dermalis- tion 555

Ringworm Streptococcal infection simulating of hands and feet 70

Roentgen ray diagnosis Of abscess of brain 13 roentgenological study of pulmonary manifestations in human tularemia 16 fluoroscopic observations in acute and chronic pericarditis 28 evaluation of roentgen findings in gonorrheal arthritis 51 roentgenographic study of peripheral arteries of living subject following injection with radiopaque substance 61 vasomotor action and dangers of contrast media used in arteriography 61 contrast media and mechanical factors used in arteriography 62 solution of problems in diagnosis by radiological examination of alimentary canal 72 secondary neoplasms of vault of cranium from roentgenological point of view, 339 anatomico-roentgenological characteristics of congenital cystic lung 133 of bronchiectasis 135 excretion urography 103 indications for arteriography in study of arteritis 174 aorturomography with thorotrast 174 practical realization of stratigraphy 170 advantages of intensified oral cholecystography 170 roentgenological study of normal and pathological satellite shadows of ribs 170 roentgen aspects of sympathetic neurolastoma 220 pharyngeal cap in cholecystography 220 of xanthomatosis involving bone 205 experimental pulmonary roentgenology and its stages 245 responsibility of roentgenologist in detection of intracranial tumors 326 enlargement of defect in air shadow normally produced by choroid plexus 327 value of roentgen examination in surgical treatment of pulmonary tuberculosis 330 roentgenological observations of automatism of formation of folds of mucous membrane in digestive tract 338 of gastric cancer 339 cholecystographic diagnosis of papillomas and tumors of gall bladder 345 roentgenological study of topographic and functional changes in esophagus and stomach during late stages of pregnancy 359 of papiloma of kidney pelvis 360 of uterine calculus 360 postoperative roentgen studies of diaphragmatic excursions and postoperative venous flow 363 cholecystography 420 roentgenological study of topographic and functional changes of intestine in pregnancy at term 418 fracture of cervical spine from standpoint of roentgeno-

- logical investigation, 464, of postoperative pulmonary emboli, 469, tumors of sacrum from roentgen point of view, 475, roentgen exploration of subarachnoid space, 524, roentgen picture in cystoid pneumatosis of intestines, 536, of diseased appendix, 538, technique of stereohysterography, 544, roentgenographic studies of cranium of women with dysfunction of genital organs, 545, arteriography in differential diagnosis of bone lesions, 555, roentgenological study of etiological factors in primary thrombosis of axillary vein and consideration of venography as diagnostic measure, 564; importance of arteriography in surgical diagnosis and treatment of arterial obliterations, 565, roentgen pathology of ethmoid labyrinth and sphenoid sinuses, 573, indications and projections for teleroentgenograms in craniology, 573, photomicrometric study of certain lines appearing in roentgenograms, 573, arteriography during course of anaphylactic shock in rabbit, 575
- Roentgen-rays, Plastic surgery in burns due to, 176; "quality" of high-voltage, 285
- Roentgen treatment, Development of irradiation therapy of cervico-uterine epitheliomas, 32, five-year results in cases of carcinoma of corpus uteri, 33, pre-operative irradiation of cortical renal tumors, 43, of leukemia, 65, of lymphosarcoma, 66, results of experimental studies of peripheral white blood cells after, 73, rôle of, in problem of malignancy, 74, of malignant disease of larynx and pharynx, 126, in cancer of bladder and prostate, 160, of cancer, 182, five-year end-results of, of cancer of cheek, 223, of salivary fistula, 224, of tuberculosis of larynx, 232, of pituitary gland for hyperthyroidism, 232; of metastases in carcinoma mammae, 241, of non-venereal infectious processes in female genital organs, 253, tissue changes in mixed tumors of kidney after, 260, necrosis of larynx and other structures of neck after, 325, of Wilms' tumor, 366, ophthalmologically important injuries to fetus after, during pregnancy, 448, reaction of liver and spleen to, after intravenous injection of thorotrast, 474, blood changes occurring in, with large fractionated and protracted doses, 474, effect of, on lymph glands and lymphatic circulation, 474, heat combined with, of malignant tumors, 474, of bilateral retinal glioma, 515, of carcinoma of mouth, 519, of genital hemorrhages in women from causes other than pregnancy and tumors, 546, of inflammatory diseases, 573, distribution of roentgen radiation in average female pelvis for different physical factors of irradiation, 574
- Round ligament, Behavior and structure of, in changes of position of uterus and cases of uterine fibromyoma, 352
- SACROLISTHESIS, 267**
- Sacrum, Tumors of, from roentgen point of view, 475
- Salivary fistula, Treatment of, by irradiation, 224
- Salivary glands, So-called mixed tumors of, type occurring in skin and subcutis and their treatment, 182
- Salpingitis, Generalized peritonitis from rupture of pyosalpinx, 33, Elliott treatment of, 148
- Sarcoma, Recognition and treatment of, of bone, 55, carcinosarcoma, 478, phosphatase activity of tissues and plasma in tumors of bone, 556, malignant changes in so-called benign giant-cell tumor, 557
- Scalenus anticus syndrome, 321
- Scaphoid bone, *See* Navicular bone
- Scarlet fever, Acute, generalized, primary peritonitis complicating, 338
- Scars, Ossification in postoperative, 68
- Schimmelbusch's disease of breast and Lacassagne's experiments on mice, 130
- Schuller-Christian disease, Cases of, and roentgen findings, 265
- Sciatica, Fibrositis, lumbago, and, 53
- Scleroderma, Parathyroidectomy for, 8, roentgenographic study of peripheral arteries of living subject after injection with radiopaque substance, 61; experimental, 480
- Scrotum, Testicular biology, male sex hormone, and function of, 47, gangrene of, due to *Endameba histolytica*, 471
- Sella turcica, Roentgenographic studies of, of women with dysfunction of genital organs, 545
- Semilunar bone, *See* Lunate bone
- Seminoma, 262
- Sepsis, Periarteritis nodosa as manifestation of, lenta due to *Streptococcus viridans*, 465
- Septicemia, Autogenous infection in relation to puerperal morbidity, 256, treatment of puerperal fever by anti-streptococcal serum, 256, treatment of puerperal sepsis, 450
- Serum, Active immunization against tetanus by vaccination versus passive immunization by use of, 571
- Sex glands, Stimulation treatment of, 146
- Sex hormones, *See* Hormones
- Shock, Experimental and clinical study of traumatic and hemorrhagic, 181, influence of adrenalin on, resulting from removal of hemostatic tourniquet, 287, rate of fluid shift and its relation to onset of, in severe burns, 469, arteriography during course of anaphylactic, in rabbit, 575
- Sinuses, Symptoms frequently involved in general diagnosis typical of diseases of, 230, ventilation of accessory nasal, 319, part played by allergy or sensitization in predisposing mucous membrane of nasal passages and paranasal, to infection and its bearing on treatment of disease of, 427, tumors of paranasal, 427; treatment of chronic infection of nasal accessory, 428, anatomical investigation of blood vessels of lateral nasal wall and their relation to turbinates and, 516, roentgen pathology of ethmoid labyrinth and sphenoid, 574
- Sinusitis, In children, 427, end-results of intranasal operation for chronic maxillary, 516
- Skeleton, Demineralization of, 165
- Skin, Ophthalmological studies in pseudoxanthoma elasticum, and angioid streaks, 4, parathyroidectomy for scleroderma, 8, early carcinoma of, 77, postoperative gangrene of, 176, 281, 576, most successful methods of treating cancer of, 182, so-called mixed tumors of mucous and salivary gland type occurring in, and their treatment, 182, homoplastic grafting of, 382, radium dosage and technique in carcinoma of, with special reference to interstitial irradiation with platinum-iridium needles, 387; spindle-cell epidermoid carcinoma, 389, in experimental hyperparathyroidism 480, innervation of, 527, flaps of, in cosmetic plastic operations on breast, 528; hospital gangrene of, 576
- Skull, Clinical and histological study of chordomas of, 75; secondary neoplasms of vault of, from roentgenological point of view, 119; treatment of injuries of, and their sequelæ, 235, 523, treatment of open injuries and their results, 235, epilepsy secondary to head injury, 236, anatomy and pathology of diploic veins, 318; importance of percussion of, by method of Benedek, 431; tumor of dura mater perforating vault of, 432, management of depressed fractures and old defects of, 514; urgent indications for operation in recent closed traumatic injuries of, 523, roentgenographic studies of, of women with dysfunction of genital organs, 545, indications and projections for teleroentgenograms in craniology 573

- TAKATA'S** modified sublimate-fuchsin reaction on blood serum as diagnostic aid in liver diseases, 344
- Tannic acid**, Davidson treatment of burns with, 283
- Tar**, Cancer of lip in fishermen due to, 319; influence of diet on cancer due to, 391
- Teeth**, Putrid abscess of lung following dental operations, 539
- Telectrietherapy**, 387
- Teleroentgenograms**, Indications and projections for, in craniology, 573
- Teratoma**, Orbital, 121
- Testicle**, Scrotal function, male sex hormone, and biology of, 47, chronic so-called aspecific orchitis, 47, radical operation for teratoma of, 162, seminoma of, 262, abscess of, 457; gonadotropic hormone in urine of men with tumor of, 458, prognosis and treatment of tumors of, 458; clinical value of Proplan-A determinations in teratoma of, 458; specific malignant tumor of, seminoma, 553
- Tetanus**, Toxin of, not transported to central nervous system by peripheral nerves, 69, 471; prevention of, by active immunization by vaccination versus passive immunization by use of serum, 571
- Thalamic syndrome**, 237
- Theelin**, Effect of, on growth and function of mammary glands of monkey, 354
- Thoracic duct**, Traumatic intrathoracic rupture of, with chylothorax, 437
- Thoracoplasty**, Causes of deaths after, in surgical clinic at Klausenburg in period from 1922 to 1932, 177, in surgical treatment of pulmonary tuberculosis, 331, and contralateral artificial pneumothorax, 333, with extrafascial apicolysis, 434
- Thorax**, Study of esophagus in relation to thoracic cage, 73, extrapulmonary tumors of, 244, association of intrathoracic lesions with bone and joint tuberculosis, 459
- Thorotrast**, Observations on contrast media in arteriography, 62, aneurismographs with, 174, in arteriography for arteritis, 174, relation of liver and spleen to roentgen irradiation after injection of, 474
- Throat**, See Pharynx
- Thrombo-angitis obliterans**, 278, circulatory diseases of extremities, 60; roentgenographic study of peripheral arteries of living subject following their injection with radiopaque substance, 61, clinical value of alternate suction and pressure in treatment of advanced peripheral vascular disease, 61, peripheral vascular disease, 173, pain in, 466
- Thrombopenia** of obstetrical and gynecological form, 448
- Thrombosis**, Post-traumatic, of carotid artery, 379, post-operative venous flow in relation to, 382, bronchiectasis and, of bronchial artery, 436, traumatic, of arm and axillary veins, 467, primary, of axillary vein, 564, postoperative, 569
- Thymus**, Primary malignant tumors of, 336
- Thyroid**, Carcinoma of lingual, 7, malignant tumors of, 124; end-results of surgery of, 232, biochemical basis of function of, 324
- Thyroidectomy**, Causes of deaths after, in surgical clinic at Klausenburg in period from 1922 to 1932, 177, end-results of thyroid surgery, 232, total, for heart disease, 429
- Tibia**, Malpighian epithelioma on old osteomyelitic focus of, 462
- Tibial tubercle**, Osteochondritis of, 50
- Tongue**, Carcinoma of lingual thyroid, 7, treatment of cancer of, with radium at Cancer Relief and Research Institute at Manitoba, 180, varices of, 231, primary tuberculosis of, 231, diagnosis and differential diagnosis of cancer of, 320
- Tonsil**, Treatment of malignancy of, with radium at Cancer Relief and Research Institute, Manitoba, 180
- Torticollis**, Common genesis of congenital paralysis of diaphragm and, 129
- Trachea**, Histological study of diverticulum of, 131; secretion of mucus in, in relation to ether and chloroform anesthesia, 571
- Transversalis fascia**, Importance of, in development of inguinal hernia, 438
- Trephination**, Urgent indications for, in recent closed traumatic cranial and cerebral injuries, 523
- Tribromethanol**, Anesthesia induced with, combined with nitrous oxide-oxygen, 71
- Trichomonas vaginalis**, Elliott treatment of, 148
- Trigeminal nerve**, Palatine access to second branch of, 13
- Trigeminal neuralgia**, Palatine access to ganglion sphenopalatinum and second branch of trifacial nerve in, 13
- Trigemino-cervical reflex**, 237
- Tuberculosis**, See names of organs
- Tularemia**, Pulmonary manifestations in human, 16
- Tumors**, Combined heat-roentgen therapy of malignant, 474, granulosa-cell, 545 See also names of organs and tumors
- Turbinates**, Relation of blood vessels of lateral nasal wall to, 516
- ULCERS**, Late results of treatment of, of leg by operations on sympathetic nerve combined with skin grafting, 287 See also names of organs
- Ulna**, Fractures of Monteggia, 58; fractures of forearm with special reference to disabilities, 170; surgical treatment of isolated forward luxation of lower end of, 562
- Ultraviolet light**, Comparative evaluation of physiotherapeutic and surgical methods in treatment of infections of female genital organs in relation to recovery of work capacity, 37, in treatment of tuberculosis of larynx, 232
- Uremia** as cause of death in massive hemorrhage from peptic ulcer, 339
- Ureter**, Lesions of, produced in operations and their treatment, 44, femoral hernias of, 44; traumatic injuries of, 47, effect of morphine on human, 150; achalasia of orifices of, 160, value of meatoscopy in diagnosis of pyelo-ureteral conditions, 258, hematuria from cystic ureteritis in pregnancy, 261, bilateral adenomatous polyposis of, 368; diagnosis and treatment of calculus in, 368; treatment of, remaining after nephrectomy, 454, operation versus expectancy and manipulation for stone in, 455
- Urethra**, Repair of rectal tear and recto-urethral fistula, 372, stricture of external meatus of, 552, ruptured pyo-urachus complicated by stricture of, 552
- Urethritis**, Non-purulent, in women, 369
- Urine**, Enormous amount of lutein hormone in, in case of lutein cyst, 34; results of pre-operative administration of extract of pregnancy, 148, retention of, 550
- Urography**, Excretion, 163
- Urolithiasis**, Etiological factors and clinical management of recurrent, 453
- Uronephrosis**, Histological and functional process of repair of kidney following temporary, 365
- Uterus**, Condition of fibromas of, after menopause, 32, development of irradiation therapy of cervico-uterine epitheliomas, 32, treatment of carcinoma of cervix of, in pregnancy, 33; five-year results in carcinoma of corpus of, 33; discharge from, 36, comparative evaluation of physiotherapeutic and surgical methods in treatment of infections of female genital organs in

relation to recovery of work capacity 37 genital-tuberculous and pregnancy 39 statistical study of ruptures of 40 treatment of atonic hemorrhages from 40 therapeutic indications and technique in chronic cervicitis 143 infarction and gangrene of 144 myoma of before twentieth year of age 145 prognosis and treatment of adenocarcinoma of cervix of 145 hysterectomy for carcinoma of corpus of 145 influence of hormones on function of musculature of 147 Elliott treatment of pelvic inflammatory disease 148 changes in mucosa of following overdosage with follicular hormone 148 effect of preoperative administration of extract of pregnancy urine on endometrium 148 changes in bones in cases of tumors of 149 therapeutic uses of sex hormone preparations 149 contraction ring of treated by amyl nitrite 155 clinical comparison of various ergot preparations on postpartum human 155 clinical importance of congenital hypoplasia of 157 treatment of malignancy of with radium at Cancer Relief and Research Institute Manitoba 150 operation versus irradiation treatment of myoma of 251 non venereal infectious processes in female genital organs, 253 origin of chorionepitheliomas and of emboli from trophoblastic fragments enclosed in myometrium 257 intramural innervation of 250, hemorrhages from without 251, 253 diathermic coagulation in cervicitis, 331 tuberculosis of cervix of 351, malignant adenoma of cervix of 351 cancer of cervix of following subtotal hysterectomy 352 total versus subtotal abdominal hysterectomy in benign disease of 352 behavior and structure of round ligament in changes of position of and fibromyoma of 353 genital hemorrhages with local cause 353 apoplexy of 358 diagnostic difficulties in pregnancy complicated by 401 ened fibroma of 449 technique of stereohysterography 544 necessity of removing adnexa with in operating for carcinoma of body of 544 physiotherapy of genital hemorrhages in women from causes other than pregnancy and tumors 545 surgical treatment of genital hemorrhages due to causes other than pregnancy and tumors 445 thermic effect of short wave and of diathermy in fell of gynecology 547 treatment of retroplacental hemorrhage with apoplexy of 548 distribution of roentgen radiation within average female pelvis for different physical factors of irradiation 574

VACCINATION Prevention of tetanus by active immunization by versus passive immunization by use of serum 571

Vagina Discharge from 56

Vaginitis Gonococcal in adult 353

Varicose veins Development and treatment of of lower extremity 63 of tongue 231 treatment of 39 445 504 injection treatment of 504

Vaso-orchidostomy with interposed spermatocele as treatment of sterility 554

Vein Anatomical and roentgenological study of primary thrombosis of axillary 564

Veins Development and treatment of varicose of lower extremity 63 treatment of varicose 63 39 445 504 varicose of tongue 231 anatomy and pathology of 318 flow in after operation 341 walled traumatic thrombosis of axillary 457 thromboses of arterial obstructions and gangrene of limb, 471 injection treatment of varicose 504

Venography in diagnosis of primary thrombosis of axillary vein 564

Ventriculography Enlargement of defect in air shadow normally produced by choroid plexus 517

Vertebra See Spine

Vertebra plana 267

Vinethen 472

Voice Phonation with ventricular bands in dysphrenia plicae ventricularis 9

Volkman's ischemic contracture 459

Vulva Hydradenoma of 35 melanoblastoma of 252

WHITMAN'S treatment for fracture of neck of femur 465

Wilms tumor Clinical and pathological study of 116

Wounds, Treatment of traumatic and their sequelae 40

Wrist Osteochonlitis of 30 conservative treatment of total dislocation of os lunatum 275 tuberculosis of 30

Wry neck See Torticollis

XANTHOMATOSIS generalisata ossium simulating osteitis fibrosa cystica 265

X Ray See Roentgen ray

ZINC peroxide in treatment of chronic ulcerative burrowing non gangrenous lesions of alab mineral water apparently due to microbophilic hemolytic streptococcus 354

BIBLIOGRAPHY INDEX

SURGERY OF THE HEAD AND NECK

Head, 81, 185, 290, 394, 481, 579
 Eye, 81, 185, 290, 394, 481, 579
 Ear, 82, 186, 291, 395, 482, 580
 Nose and Sinuses, 82, 186, 291, 395, 482, 580
 Mouth, 83, 186, 291, 396, 482, 581
 Pharynx, 83, 186, 291, 396, 483, 581
 Neck, 83, 186, 291, 396, 483, 581

SURGERY OF THE NERVOUS SYSTEM

Brain and Its Coverings, Cranial Nerves, 84, 187, 292, 397, 483, 581
 Spinal Cord and Its Coverings, 85, 187, 293, 397, 484, 582
 Peripheral Nerves, 85, 188, 397, 484, 582
 Sympathetic Nerves, 85, 188, 293, 397, 484, 582
 Miscellaneous, 85, 188, 293, 484, 582

SURGERY OF THE THORAX

Chest Wall and Breast, 85, 188, 293, 398, 485, 583
 Trachea, Lungs, and Pleura, 85, 188, 293, 398, 485, 583
 Heart and Pericardium, 86, 189, 293, 398, 486, 584
 Esophagus and Mediastinum, 86, 190, 294, 399, 486, 584
 Miscellaneous, 86, 190, 294, 399, 486, 584

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum, 86, 190, 294, 399, 486, 584
 Gastro-Intestinal Tract, 87, 190, 295, 399, 487, 585
 Liver, Gall Bladder, Pancreas, and Spleen, 89, 192, 297, 401, 489, 587
 Miscellaneous, 90, 193, 298, 402, 490, 587

GYNECOLOGY

Uterus, 90, 193, 299, 402, 490, 588
 Adnexal and Peruterine Conditions, 91, 194, 299, 403, 490, 588
 External Genitalia, 92, 194, 300, 403, 491, 589
 Miscellaneous, 92, 194, 300, 403, 491, 589

OBSTETRICS

Pregnancy and Its Complications, 93, 195, 301, 404, 492, 590
 Labor and Its Complications, 94, 197, 302, 406, 493, 591
 Puerperium and Its Complications, 95, 197, 302, 406, 493, 592
 Newborn, 95, 198, 303, 407, 493, 592
 Miscellaneous, 95, 198, 303, 407, 494, 592

GENITO-URINARY SURGERY

Adrenal, Kidney, and Ureter, 96, 198, 303, 407, 494, 592
 Bladder, Urethra, and Penis, 97, 199, 304, 408, 495, 593
 Genital Organs, 97, 199, 304, 408, 495, 593
 Miscellaneous, 97, 200, 305, 408, 496, 594

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

Conditions of the Bones, Joints, Muscles, Tendons, Etc., 98, 200, 305, 409, 496, 594
 Surgery of the Bones, Joints, Muscles, Tendons, Etc., 99, 202, 306, 410, 408, 595
 Fractures and Dislocations, 99, 203, 306, 410, 498, 595
 Orthopedics in General, 100, 204, 307, 411

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

Blood Vessels, 100, 204, 307, 412, 500, 596
 Blood, Transfusion, 101, 205, 308, 412, 500, 597
 Reticulo-Endothelial System, 500
 Lymph Glands and Lymphatic Vessels, 101, 205, 308, 412, 500, 597

SURGICAL TECHNIQUE

Operative Surgery and Technique, Postoperative Treatment, 101, 205, 308, 412, 501, 597
 Antiseptic Surgery, Treatment of Wounds and Infections, 102, 205, 309, 413, 501, 597
 Anesthesia, 103, 205, 310, 413, 502, 598
 Surgical Instruments and Apparatus, 310

PHYSICO-CHEMICAL METHODS IN SURGERY

Röntgenology, 103, 206, 310, 414, 502, 598
 Radium, 103, 206, 310, 414, 503
 Miscellaneous, 104, 206, 311, 415, 503, 599

MISCELLANEOUS

Clinical Entities—General Physiological Conditions, 104, 207, 311, 415, 503, 599
 General Bacterial, Protozoan, and Parasitic Infections, 104, 207, 312, 416, 504, 600
 Ductless Glands, 104, 208, 312, 416, 504, 600
 Surgical Pathology and Diagnosis, 208, 312, 416, 600
 Experimental Surgery, 208, 600
 Hospitals, Medical Education and History, 208, 312, 600

AUTHOR INDEX

- Abel J J. 60 471
 Abelson, S. M. 377
 Adams, W. E., 131
 Adelstein, L. J., 525
 Adson, A. W., 75
 Agnifoglio, M., 171
 Aguilar, H. D., 530
 Aguilar, O. P., 530
 Ahlbom, H. E., 182
 Åkerblom, N. V., 3
 Albert, B., 470
 Albo, M., 376
 Albot, G., 143
 Albright, F., 550
 Albright, H. L., 510
 Alexander, J., 332
 Alglave, P., 370
 Allen, A. W., 441
 Allen, C. I., 283
 Allen, E., 354
 Allen, E. B., 252
 Allen, E. V., 61
 Almour, R., 5
 Ameuille, P., 436
 Anagnostidis, N., 535
 Andersen, K., 276
 Anseroff, N. J., 40
 Arbuckle, M. F., 8
 Archer, G. F., 553
 Archer, V. W., 16
 Archibald, E., 134
 Arnesen, A. J. A., 242
 Arneson, A. N., 574
 Arruga, H., 123
 Atzert, W., 252
 Aufranc, O. E., 181
 Averbukh, S. S., 13
 Axhausen, G., 518
 Aynesworth, K. H., 441
 Babés, A., 183
 Baccarini, L., 47
 Baer, B. F., Jr., 220
 Bailey, U. M., 65
 Baird, J. B., 103
 Ballarin, G., 245
 Barclay, I. B., 103
 Bardin, P., 383
 Barenholm, S., 61
 Bariéty, M., 436
 Barlow, O. W., 155
 Barnard, W. G., 278
 Bársony, T., 135
 Bauer, R., 58
 Bauer, W., 301
 Baumgartner, J., 565
 Bazy, L., 62, 562, 571
 Beck, J. C., 11
 Beckman, T. M., 507
 Bellini, A., 434
 Benedict, E. B., 23
 Benedict, W. L., 4
 Bennett, G. E., 166
 Benoit, H., 20
 Berendes, J., 476
 Bergeret, A., 143
 Bergstrand, H., 34, 431
 Bernabeo, C., 459
 Bernabeo, V., 465
 Bernard, R., 6
 Bernardini, R., 365
 Bernhard, 347
 Bernhard, F., 30
 Bernheim, A. R., 8
 Bertrand, L., 526
 Berutti, E., 152, 446
 Béyoul, A., 560
 Bezza, P., 571
 Bianchi, M., 450
 Biasini, A., 44
 Bielschowsky, A., 121, 227
 Bierman, W., 234
 Billet, H. R., 321
 Black, W. C., 230
 Blackford, S. D., 16
 Blair, D. M., 7
 Blanc, H., 250
 Bloodgood, J. C., 15
 Bloomberg, E., 550
 Bloomfield, A. L., 137
 Bluhm, I. L., 528
 Blum, L., 0
 Boehler, L., 276
 Bohrer, J. V., 135
 Bolaffi, R., 150
 Bombi, G., 245
 Borak, J., 231
 Borden, D. L., 336
 Bothe, A. E., 260
 Boyden, E. A., 210
 Bozzetti, G., 170
 Braasch, W. F., 450
 Brailsford, J. F., 50
 Branch, C. D., 542
 Brandis, von., 260
 Bratrud, A. F., 438
 Brea, M. M., 334
 Breittmann, M. G., 21
 Brevda, I. S., 13
 Brews, A., 451
 Bright, E. F., 159
 Brindeau, 34
 Brindeau, A., 361
 Brocard, H., 430
 Broccaro, R., 450
 Brocq, P., 30
 Broders, A. C., 10, 366
 Broecker-Mortensen, K., 141
 Bronstein, I. P., 377
 Browder, J., 436
 Brown, G., 68
 Brown, G. E., 466
 Brown, R. C., 361
 Brown, S., 73
 Brucke, H. von., 275
 Bruch, W., 231
 Bruch, L., 373
 Brunner, W., 288
 Buchanan, D. N., 523
 Buckley, C. W., 53
 Bucy, P. C., 523
 Buechner, F., 21
 Bugyi, L., 265
 Bull, P., 258
 Bumpus, H. C., Jr., 43
 Bunch, G. H., 334
 Burian, F., 568
 Burman, H. J., 427
 Burnham, H. H., 516
 Butler, R. W., 117
 Buus, C. E. P., 557
 Cachin, C., 250
 Caeiro, J. A., 14
 Caffaratto, T. M., 350
 Cahuzac, 168
 Calchi Novati, G., 53
 Calder, R. M., 550
 Calderon, 575
 Caltabiano, D., 365
 Calvet, J., 545
 Calzolari, T., 258, 250, 335
 Cameron, J. A. M., 427
 Camp, J. D., 01
 Cantor, M. O., 124
 Cardillo, F., 110
 Carlson, H. E., 150
 Carney, H. M., 527
 Caroli, J., 26
 Carroll, G. G., 335
 Casini, A., 462
 Caspari, W., 477
 Cassidy, M. A., 354
 Casuccio, C., 51
 Cazzamali, P., 67
 Chabanery, H., 153
 Charbonnier, A., 468
 Chavannaz, J., 445
 Cheate, Sir L., 130
 Chen, H. I., 450
 Chêne, P., 540
 Chiassennì, A., 433
 Christensen, T., 330
 Clasen, S., 145, 541
 Clemmer, J. J., 257
 Clert, L. H., 335
 Coatswell, H. D., 282
 Coke, H., 241
 Cola, G., 18
 Cola, H. N., 285
 Cole, W. H., 264
 Colebrook, L., 550
 Colby, W. B., 557
 Colo, R., 541
 Colt, G. H., 561
 Conn, H. R., 122
 Conti, G., 557
 Connades, 171
 Connades, N. J., 02
 Cook, E. N., 40
 Coonse, G. R., 15
 Cossali, C., 53
 Costantini, A., 245
 Costantini, H., 327
 Costen, J. B., 250
 Counseller, V. S., 157, 456
 Courtiades, H., 526
 Courville, C. B., 431
 Cowdry, E. V., 8
 Cracium, E. C., 375
 Cretz, V., 131
 Croft, C. R., 155
 Croese, A. C., 43
 Crossen, H. S., 33
 Crousse, R., 441
 Cupei, 438
 Curtlett, E., 20, 327
 Cuthbertson, D. P., 321
 Cutler, E. C., 220
 Cutler, M., 66, 458
 Damm, P. N., 145
 Daniel, G., 283
 Darrach, W., 461
 Dassen, R., 380
 Datnow, M., 577
 Datnow, M. M., 155
 Davidson, L. M., 327
 Davies, F., 7
 Davies, G. F. S., 175
 Dean, A. L., Jr., 45
 DeBailey, M., 321
 Decker, H. R., 336
 Delarue, J., 385
 Deleplane, G., 44
 Del Terto, F., 423
 Demilleau, J., 18
 Denk, W., 27
 Dennis, W., 247
 De Quervain, F., 122
 Derscheid, G., 450
 Desjardins, A. U., 103
 Desmarest, 71
 De Takats, G., 175, 526
 De Tarnowsky, G., 340
 De Veer, J. A., 430
 D'Harcourt, J., 430
 D'Harcourt, M., 450
 D'Harcourt, G. J., 523
 D'Harcourt, G. J., 523
 Diamantis, A., 5-8
 D'Ar, G., 50
 D'Ar, A. W., 551
 Dieckmann, W. J., 151
 Dietrich, J. R., 130
 Diehl, R., 526
 Dirksen, H., 521
 Dean, R. C., 145
 Dodd, H., 111
 Donald, L., 523
 Donald, C., 157
 Donald, M., 273
 Donchess, J. C., 522
 Dortal, L. H., 131
 Dostal, H., 521

- Driver J R 387
 Dry T J 137
 Dubarry J 540
 Dubrow J I 133
 Dunlop J 463
 Dupont A 444
 Dyke C G 327
 Earles M F 257
 Eagleton W P 420
 Fatic W R 477
 Easton F R 383
 Edwards E A 463
 Ehrlich J C 331
 Eichenberg H E 35
 Eisenberg A A 13
 Eisendrath D N 137
 Eitner F 528
 Elburn A 551
 Elton E Jr 383
 Elsborg C A 327
 Engellung F 448
 Engle E T 354
 Englund F 530
 Epstein A 333
 Erdmann J E 250
 Erlacher P J 463
 Esat M 430
 Evans E A Jr 69
 Eves C 5
 Eymor H 235
 Faber H K 39
 Fagrich M 545
 Falls F H 39
 Farah M 356
 Farinas I L 550
 Favill J 328
 Fav T 218
 Feil A 252
 Feiner D 452
 Feldman L 534
 Fels F 34
 Ferguson A B 16
 Ferrari R C 334
 Fessel A G 513
 Feyrter F 26
 Fiessinger N 62
 Filatov V P 4
 Fiqui A 558
 Finkelstein H 555
 Finzi N S 241
 Fiorini E 17
 Fischer E 432
 Fischer H 532
 Fischer Wasels B 78
 Fitchet S M 40
 Fletcher F 435
 Fodor G I 119
 Foyte I S 181
 Foley F F B 455
 Fontaine R 58 287
 Ford R K 215
 Foster J M Jr 242
 Fox G W 43
 Franceschi E 44 43 376
 Francois J 168
 Franseen C C 359
 Frantz V A 346
 Fraser J 60 373
 Frazier C H 232
 Friedemann M 22
 Friedman L 23
 Friedrich H 382 551
 Friebe P 274 467
 Frimann Dahl J 331, 382, 469
 Fruchaud H 132 160
 Fry W E 515
 Fuchs F 371
 Fuss H 439
 Gage H C 536
 Gage M 321
 Gallavresi L 179 573
 Galtier M 562
 Garcia D E 43
 Gardner S S 145
 Eldum F 253
 Gardner C E Jr 247
 Gardner W U 354
 Garlock J H 8
 Gasbarrini A 200
 Gauthier Villars P 514
 Geist S H 147
 Gentile A 9
 Gerber I F 381 541
 Gerner L 2
 Geschickter C F 225 427
 Ghibber G F 450
 Gilbert P 573
 Gifford S R 3
 Gilbert B 256
 Gilbert J G 516
 Gilbert R 474
 Giulian Sir H D 176
 Guliani G M 28 166 261
 Glaser M A 235
 Godard H 170
 Gold E 443
 Goldenberg Bayler S 32
 Goldsmith G A 466
 Goldstein M 127
 Goloubova O 37
 Gordon Taylor G 342, 376
 Gordon Watson Sir C 141
 Losset A 526
 Goussakoff L 256
 Gouverneur R 259
 Gouverneur C 536
 Grant O 451
 Graves R C 46
 Greco T 379
 Greaves R A 426
 Gregersen I 169
 Grinnell R 28
 Gross R F 542
 Gubern Salzsachs L 571
 Gudim 569
 Guenstaz E 151
 Guerin P 259
 Gurnhard A 183
 Guimarães Filho A 354
 Guisier J 553
 Guikissen R 342
 Guillotta C 334
 Gurdjian E 514
 Guthmann H 251
 Guttman M R 22
 Hafström T G 344
 Haggard W D 140
 Hagblom E C 148
 Hamburger 575
 Hamilton C F 479
 Hamilton T D 478
 Hampel B 69 471
 Hankins F D 7
 Hansmann G H 257
 Harbitz H F 283
 Harrington C R 324
 Harkins H N 469
 Harris S H 552
 Harris W 65
 Hart D 24
 Hartung A 240
 Harvey W J 4, 9
 Havilasek L 235
 Hawksley J C 65
 Hayer F 73
 Heim H 521
 Henn B J 170
 Heine L H 427
 Heitz Boyer 30 31
 Held E 144
 Henderson F F 345
 Herzberg B 20
 Hess J H 377
 Hesse E 566
 Hey Groves E W 160
 Heyl J H 170
 Hickman N F 576
 Hinglas 34
 Hinglas H 364
 Hinglas M 364
 Hinman F 162 458
 Hintze A 182 390
 Hirsch C 232
 Hirsch F F 325
 Hiscot L H 61
 Hoess H 457
 Hoffmann R 539
 Hoffmann A 479
 Hoffmann G 168
 Hohmeier F 576
 Holland E 363
 Holman E 195
 Holst J 331
 Holtermann C 361
 Horowitz E A 254
 Horwitz W 428
 Howes F 344
 Howorth M B 167
 Hrdina L 131
 Hrynyschak I 263
 Huber P 569
 Huot I C 430
 Higo 55
 Huitten O 53
 Hunt V C 341
 Hunter D 49
 Hutchison R G 285
 Hyman A 161
 Hück H E 279
 Hingworth C F W 541
 Incian A 58 555
 Isch Wahl P 350
 Ivanisovich O 334
 Izzo R A 530
 Jackson C 0
 Jackson C L 9
 Jacobovici J 177
 Jahns S A 171
 Jakky J 453
 Janas A 167
 Jansson G 367
 Jacot M 282
 Jayle F 546
 Jellcoate T N A 133
 Jentzer A 523
 Joel W 465
 Johnson J 232
 Jones A F Jr 471
 Jones H A 166
 Jones H T 559
 Jones J L 155
 Jones O W Jr 210
 Jorg J M 180
 Jory N 5
 Junet R 285 474
 Jung A 480
 Jura V 575
 Justin Beadon L 353
 Juzelevskij A 235
 Kablaer J 132
 Kadrnak S 285 338 4
 Kahler A R 427
 Kaplan A 23
 Kaplan M I 534
 Kapa P J 52
 Karitzky B 79
 Kaufmann C 446
 Kekwick A 174
 Keller R 362
 Kermohan J W 75
 Kevser L D 413
 Kilian H 472
 King A J 353
 King F S A 345
 Kirkin B R 72 539
 Kirshbaum J D 25
 Kirwan E W O G 121
 Klaffen F 545
 Knaggs R L 430
 Knight G C 128
 Konkova O A 41
 Körtzky E 20
 Kopetzky S J 5
 Korff A 231
 Kornblum K 321
 Kottmeier H L 149
 Kramer R 10
 Kraul L 147
 Kriensen B 450
 Kronfeld I C 228
 Kneppers H 281
 Kulcsar F 431
 Kully B M 231
 Kunz H 470
 Kurzenberger F 164
 Kurrok R 354
 Kutscherenko I A 184
 Kus E 467
 Labry R 144
 Lacrogne A 32
 Ladislav F 143
 Lagomarsino F H 54

- Lachner, H., 216
Lachner, H. D., 216
Lacey, 144
Ladd, L. M., 61
Ladner, R. W., C. S., 772
Lafayette, L. H., 377
Lafferty, F., 437
Laguerre, 187
Laird, M. A., 20
Lake, H., 216
Lambert, J. B., 419
Lambert, T. A., 162
Landau, L. H., 175
Lang, E. C., 65
Langford, D. J., 224
La Motte, V., 343
Lanier, J., 141
Lara, K., 103
Larson, J. M., 410
Larsen, C., 145
Latta, P., 32
Lauder, R., 216, 450
Lawry, 144
Leach, L., 419
Leachman, M. L., 175, 343
Leahy, J., 170
Lean, I. M., 20
Leary, G. L., 177
Leaver, J., 117
Leavelle, M., 143
Levy, A., 174
Levy-Strauss, L., 175
Lewis, M. M., 57
Levy, I., 57
Ley, A., 157
Leysner, R., 67
Libbe, O. R., 437
Liebowitz, E. I., 177
Livy, D., 266
Lipkowitz, B., 29
Livermore, 132
Livshits, S. N., 195
Ljermay, P., 68
Lloyd, M. C., 510
Lloyd Davies, D. A., 539
Lob, A., 72
Locke-Smith, C., 153
Lockhart-Mummery, J. P.,
539
Longacre, J. J., 570
Lorenzetti, I., 410
Loughnane, F. McG., 539
Loxenthal, G., 281
Lubotsky, D. N., 13
Lucas, G., 342
Lupacolo, G., 461
Lynch, M. G., 246

MacAuland, A. R., 172
MacCready, P. B., 435
MacDonald, A. L., 123
Mackay, R. P., 328
Mackey, W. A., 324
Magaldi, B., 243
Magendie, J., 377
Mainzer, I., 465
Maison, J., 391
Maifilisch, R. M., 184
Maisonave, A. D., 376
Maitre, R., 287
Malhot, L., 1
Male, H. I., 20
Mannes, W. L., 333
Mann, W. A., Jr., 207
Manzanilla, M., 178
Marchall, G., 474
Marshall, G., 427
Marsh, G. G., 353
Marshall, H. I., 174
Marshall, C. R., 125
Martin, H. I., 27, 224, 370
Martini, Pa., 274
Maschell, J., 330
Massachusetts, P., 37
Matheson, K. H., 237
Matson, W. N., 351
Matus, M. I., 107
Matten, G. I., 120
Maynard, W. A., 277
McGuire, R. D., 40
McCartney, J. L., 34
McCabe, J. M., 443
McClure, R. D., 25
McConnell, J. R., 419
McElroy, F. M., 674
McGee, J. L., 241
McGowan, J., 212
McGregor, A. L., 110
McIndoo, A. H., 170
McKenzie, K. G., 124
McKewen, W., 7
McLean, R., 350
McMaster, P. L., 170
McMullen, J. J. A., 679
McMurry, T. P., 460
McNee, G., 241
McNulty, L. G., 40
Mead, C. H., 22
Meisner, W. C., 101
Melrose, I. L., 354, 471
Melroy, H. L., 171
Meltzer, H., 320
Meng, C. M., 459
Menkin, A., 285
Menton, J., 134
Meriville, J. G., 525
Merletti, C., 363
Merlino, 572
Messing, R., 62
Meyenburg, H. von, 251
Meyer, 112
Meyer, J., 269
Meyer, M., 262
Michon, L., 153
Mikulich-Radecki, F. von,
49
Milch, H., 269
Milmanich, N., 277
Miltzer, R. E., 46
Miller, W. M., 505
Miller, L. I., 54
Miller, L. J., 51
Miller, R., 536
Mills, G. P., 464
Milone, S., 21
Minucci Del Rosso, L., 216
Mitchell, J. H., 70
Mitchell, A. A., 380
Moersch, H. J., 10
Mohrningo, L., 150
Moller Christensen, I., 130
Molok, G. A. G., 272
Monhor, H., 141, 514
Montel, R., 18
Montgomery, H., 4, 470
Moran, A. A., 216
Morelli, A. C., 440
Mosser, C., 345
Mosser, C. F., 47
Moore, R. A., 294
Morand, G., 310
Morrell, A., 110
Morris, L., 261
Morse, K. H. A., 531
Mortola, A. M., 31
Morsova, A. N., 41
Motta, G., 152, 525
Mottin, M. M. M., 564
Motta, 371
Mouclat, A., 267
Moulton, P. L., 34
Mueller, K. F. P., 6
Muir, Sir R., 119
Mulvanill, D. A., 121
Munster, J., 177
Muschat, M., 100
Mutschbacher, T., 75
Myerson, M. C., 516

Naefner, H. C., 235
Nathanson, J. N., 515
Nardella, 174
Nardella, J., 62
Negri, A., 36
Neil, W., 246
Neison, P. A., 325
Neuber, F., 283
Newell, Q. U., 35
Nicholson, D., 180
Nicotra, A., 133
Nieber, J. M., 431
Nilsson, F., 145
Nielsen, R., 242
Norris, L., 465

Oberndorfer, 262, 553
O'Brien, C. S., 427
Orkner, A., 321
Oelblad, N. F., 159
Oehlert, I., 375
Oertel, H., 78
Ogden, G., 468
Ogilvie, W. H., 24
Oliverson, H., 432
Ollervides, R., Jr., 351
Olper, L., 365
O'Malley, J. F., 310
Orbach, L., 181
Orley, A., 535
Ormond, J. K., 369
O'Shaughnessy, L., 17
Oshtu, A., 567
Ottenberg, R., 210
Ottolenghi, C. E., 58
Outland, T. A., 378
Overgaard, K., 376, 474
Overholt, R. H., 542
Owen, S. E., 458

Pact, G. T., 245
Page, C. M., 561
Parri, B., 15
Paplan, M., 448
Paine, C. G., 41
Palmer, E., 60
Palmer, D. L., 573
Panella, P., 287
Parelli, G., 33
Parron, G. H., 525
Passot, J., 181
Pastor-Ly, A., 323
Pazzagli, A. J., 373
Pezzoli, R., 171
Perce, C. N., 267
Perice, C. H., 244
Petard, J., 551
Pereyra, R., 561
Perry, I. H., 275
Peser, C., 359
Phleger, O. H., 223
Pinutine, J., 37
Piccigh, G., 58
Picchia, C., 475
Piero, A., 21
Pich, H., 248
Pien, G., 328
Pincin, A. J. S., 531
Placco, F., 345
Plummer, W. A., 120
Polle, E. A., 45
Pollack, W. C., 333
Pomeranz, M. M., 274
Pompe, J. C., 383
Poole, W. H., 451
Poppi, W. C., 164
Porro, I. W., 550
Porto, N., 524
Portes, L., 358
Portmann, U. V., 224
Pototchnig, G., 250
Pourbaix, Y., 391
Powell, T. O., 458
Pozzan, A., 395
Pozzi, A., 251
Prey, D., 217
Price, L. W., 6
Priestley, J. T., 157, 376
Primrose, A., 76
Pruvost, 132
Puccioni, L., 39
Putti, V., 51
Putzu, I., 456
Puusepp, L., 12

Quick, D., 323
Quimby, E. H., 574
Quimby, W. C., 159
Quinto, P., 38

Racine, M., 62
Radulescu, A. D., 462
Raftord, T. S., 130
Rainey, W., 261
Ramsay, I. S. W., 564
Ranshoff, N. S., 503
Ranzi, E., 569
Ravina, A., 62
Reboul, H., 62
Reeb, 449
Reed, J. A., 336
Reese, A. B., 515

- Reeves J R, 20
Reichardt 235
Reid M R 50,
Reinhard M C 387
Reinrich W 36
Rich, A R. 162
Richardson E H 245 352
Riehl 34
Ritchie G 43
Ritchie H 175
Rivers A B, 137
Riviere M 350
Rizzi P 160
Robecchi L 38 350, 445
Roberts J F 285
Robertson H F 181
Robinson A L 153
Robinson M R 444
Robles C 358
Rogers L 240
Roman A 454
Romualdi P 537
Rosenberg W 457
Rosenthal A A 532
Rosenthal N 65
Rotenberg M I 553
Rothstein F 470
Rubert S R, 240
Rubin, H W 516
Ruffel Z 211
Rugiero H R 23,
Ruhl J 269
Runtio A 21
Ruphus K 129
Russell D S 43
Russell H G B, 428
Rutishauser E 459
- Sabadini I 29
Sabadini L 338
Sacco E, 258
Salamana A G 353
Salamero Castillon 451
Salinger S, 10
Salkeld R. 379
Salto M J 137
Salvo, A A 140
Santa L 330
Santanello L 243
Saramin R. 136
Sarma F J 346
Sartory A R, 269
Scheele A 47
Schmeisser H C 241
Sclneck F G 273
Schreiner B F 144, 387
Schur M. 135
Schwarz E 63
Scioulonoff T 40
Scott S 12
- Scott S G, 241
Scott W W 372
Seufert, E., 140
Séjournet P 352
Semb C 331 434
Semenova G S 13
Serck Hanssen T 287
Sgrasso J A 453
Shafer F P 236
Shambaugh P 519
Shelensyak M C 354
Shelling D H 265
Shepley E E, 74
Sherman, J T, 42
Shipman J S, 229
Shore L R 208
Short A R, 347
Sunon J F 159
Sunon S 147
Sunovitch M 277
Simpson W M 248
Skuduna C 64
Sloane M F 274
Smith F 428
Smith G G 369
Smith L A 265
Smith P E 354
Snyder H E, 469
Solmaru A. 33
Solomon I 473
Som, M I 10
Sommer R 266
Sophian L 19
Soria 353
Sorsby A. 4
Spaulding H V 462
Speed K. 62
Spielman F 14,
Spoto P 356
Spurling K G 315
Steecher W R 3, 3
Stein I F 35 540
Steindler A 375
Stern L, 530
Stevenin H 243
Stevens A R 159
Stewart F W 389
Stewart W H 179
Stewart Harrison R 126
Stewart Wallace A M 176
Stasny H 374
Stinson B B 273
Stoichita N N 131
Stopford J S B 278
Stoppani F 543 474
Stout A P 288
Strieder J W 337
Strizko, O 440
Stuhler L G 163
- Suckow G R 535
Sundt H 267
Sureyya C 480
Susnow D A 537
Sussman M L 343
Sutton R L Jr, 77
Swenson P C 273
Sworn B R. 138
Symeonidis A, 262
Symonds C P 5
- Tarozzi G 263
Taylor W N, 367
Telford E D 278
Telling W H M 166
Telson D R 563
Teness S 248 474
Teneta E, 37
Terekhova A A, 41
Thalheimer M 132
Thompson A P 552
Thompson G J, 45
Thorel I 224
Timpone M 474
Titone M 539
Todd A T 242
Toennis 235
Tománek F 55
Torraca L, 432
Tortellá P 237
Toussaint P 456
Trace I M 534
Trausa Rao G 351
Treer J 243
Troruer J 436
Truesdale P E 248
Trusler H M, 20 382
Turnbull H H 67
- Uhle C A W 455 553
Ulrich P 355
Ungar G 62
Uua 451
- Vaberi E 518
Valle, G 300
Vallebouca A 133
Vallery Radot 575
Vasiliu A 169
Vaucher E 132
Väyrynen V, 440
Vásquez-Barriera A 229
Veal J P 564
Veu V 429 517
Vebra G R. 70
Verlende J 69
Villar J 144
Vimós A R. 350
Voshell A F 265
Voss O 320
- Volaw R, 8
Vurchio G 547
- Wachefdt Mt S von 154
Wahlgren, F., 16
Wallace K. H 441
Walbrich E 544
Wangensteen O H 135
Wanke 235
Wanke R. 318
Waters, C A 43
Watson M C 355
Watson W L 518
Watson Williams E 5
Watts J W, 435
Wechsler I S 523
Wehr W H 387
Weibel W, 253
Weil, P E. 350
Weingrow S M, 23
Weirheimer P 467
Westermann J J, 439
Westermarck N 330
Wever G H 278
Whipple A O, 546
Whittle C H 451
Wickramasany, G A W 255
Widmann B P, 373
Wilder R M 120
Wiles P 49 376
Wilhelm S F, 534
Williams H L 516
Wilson L 354
Wilson W D, 527
Winkler E 524
Wissler, J E, 16
Wodon J L 543
Wohlhart, S 557
Wohlhart G 557
Wolman H W 75
Woodruff S R. 43
- Yates A L 428
Young H H, 61
- Zadek I, 273
Zampa G 29
Zanetti S 530
Zanne D 305
Zengunoff G 132
Zano A 243
Ziegelman F F 131
Zilochu E 142
Zobel A J 537
Zocchi S 359 360 445
Zondek L 146
Zur Verth M 270

